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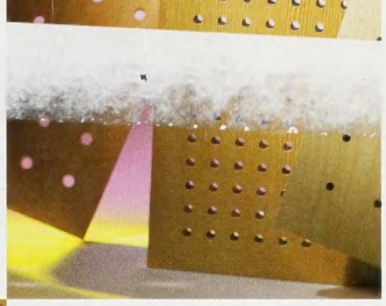
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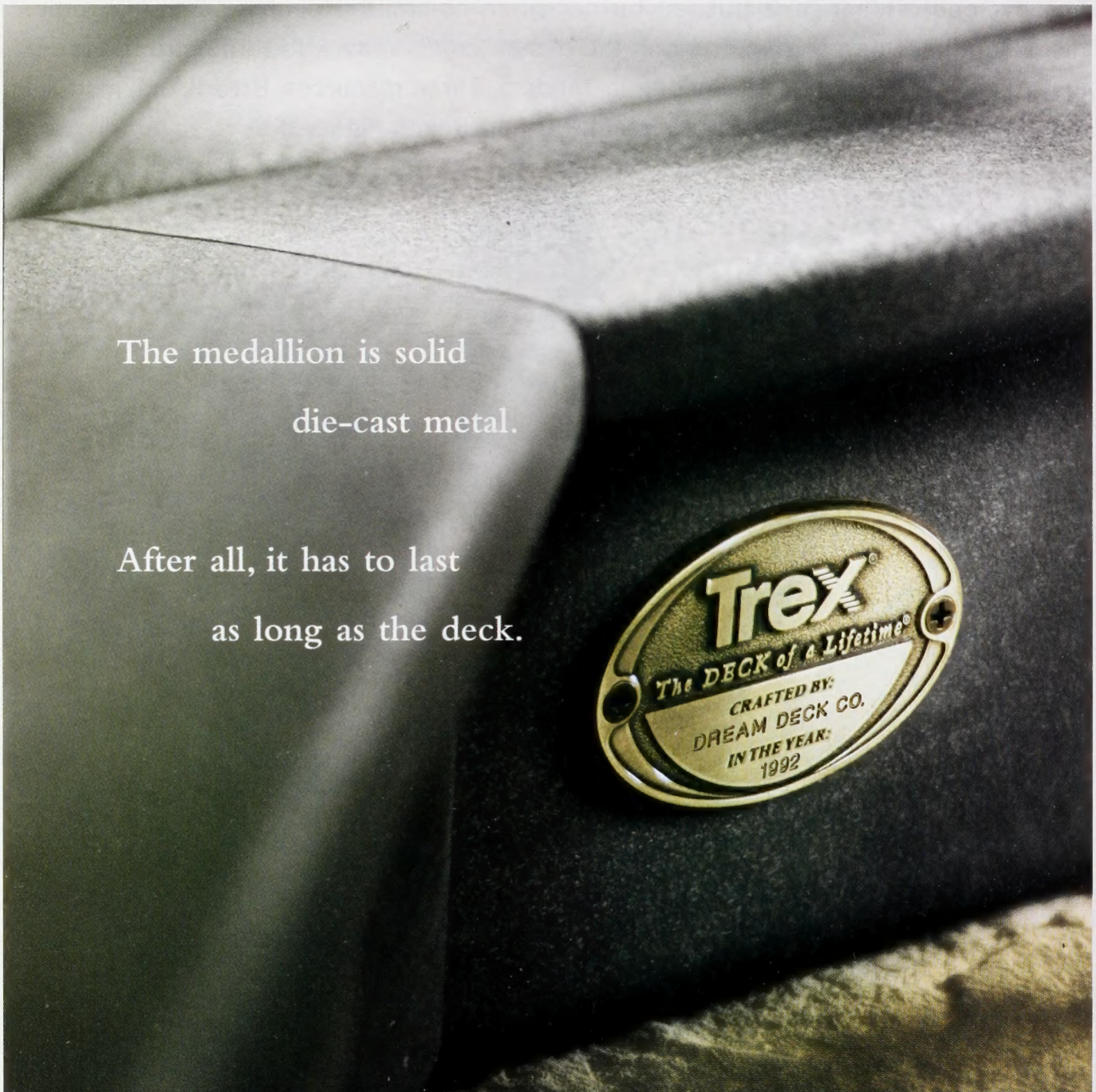
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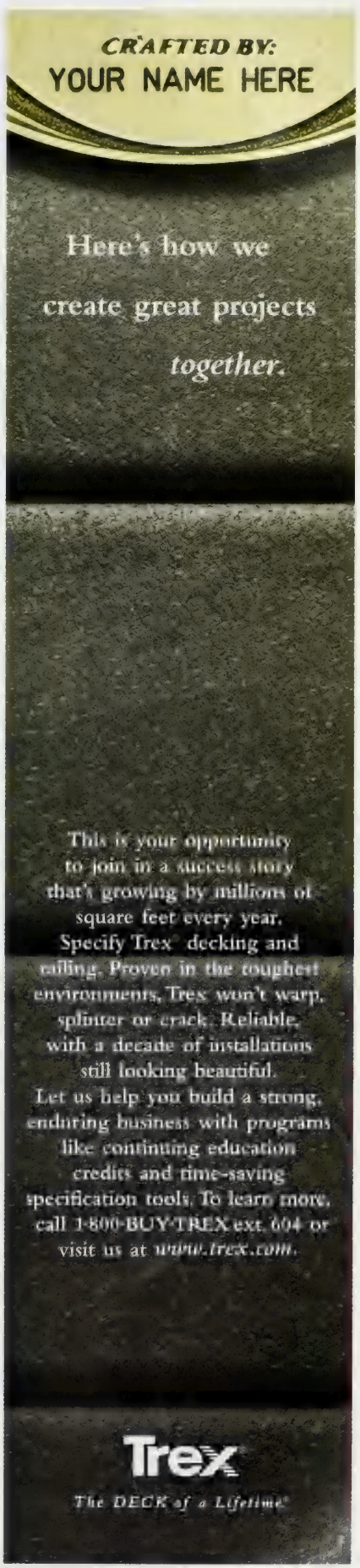
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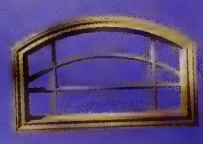


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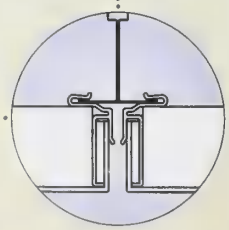
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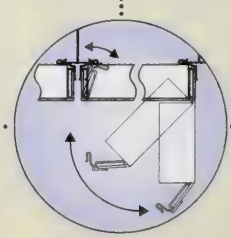
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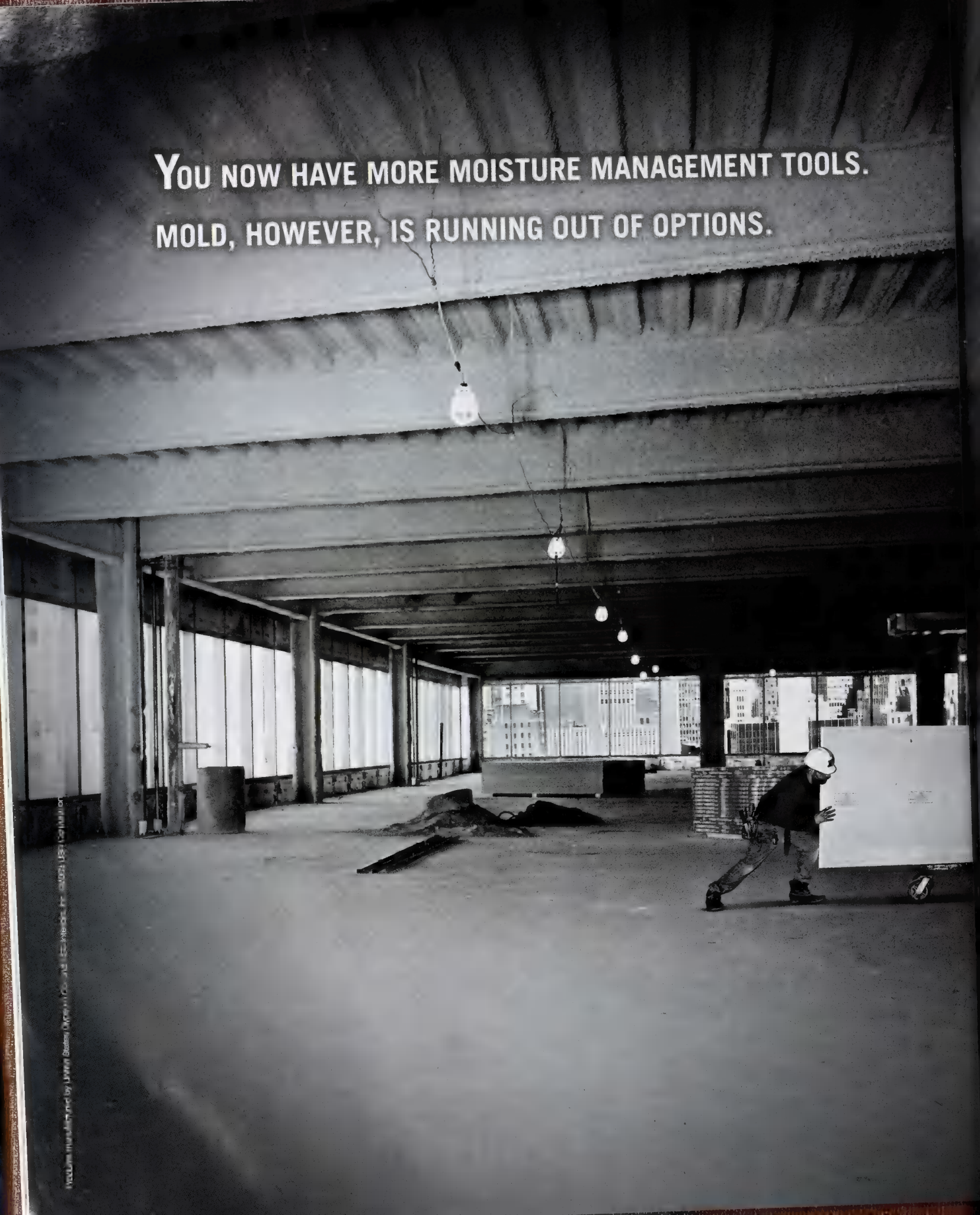
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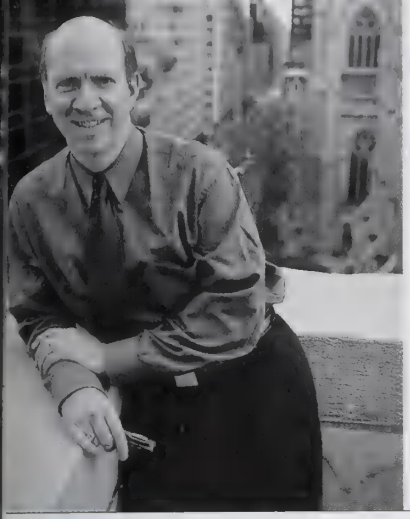
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A private army

Editorial

By Robert Ivy, FAIA

Weeks later, the firepower lingers. Out of the barrage of coverage from the war in Iraq, one graphic image stands out: that of the young soldier triumphantly draping the head of the statue of Saddam Hussein with the American flag. His actions, those of an exuberant young warrior reaching the capital, have provoked conflicting reactions in viewers, depending on where you stand in the world. While to some in the United States, the message is of liberation from a repressive regime, to many in the Arab world and beyond, the semiotic message is mixed, including humiliation in defeat and occupation by a superior force. How America and its allies act in the following months will determine the true meaning of our arrival in Baghdad.

What this war has proved, once again, is America's dominance of the world scene. While we have no specific territorial ambitions, since the presidency of Theodore Roosevelt and the subsequent opening of the Panama Canal in 1914 (featured in this issue of ARCHITECTURAL RECORD), the United States finds itself in a position of inarguable military hegemony, economic prowess, and cultural ubiquity. Witness our virtual empire in which the English language is widespread, almost universal; our media blanket the farthest islands of the South Pacific, a situation only broadened by the Web; Eminem and Big Macs rule in Philippine villages.

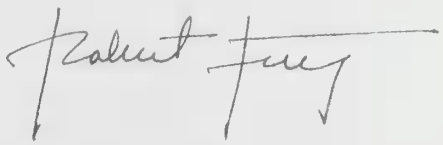
With all our might and reach, a cautionary note is in order. Think of the numbers: From a global population of 6.286 billion, the United States comprises 290 million, or only 4.2 percent of the total. Yet despite a challenging year to the economy, America's gross domestic product of $10.82 trillion overwhelms Japan's, our closest competitor's, by three times. As Michael Hastings pointed out in a recent issue of Newsweek, though we may be the premier world economy, we represent a minority of the world's population, and powerful minorities can become easy marks for resentment. Experience shows that towers can become targets.

That's where architecture enters the picture. Architects are frequently the advance guard, the first emissaries, called forth by clients around the world, not for their power, but for their skills. International governments and private entrepreneurs seek American expertise in organizational management, in planning and building. Sometimes they employ us for our art. Rather than fearing us, our disparate partners place their trust in us, commissioning small- and large-scale enterprises, from housing to whole cities.

If our related professions played an active role in dismantling Iraq, while failing to protect the country's—indeed, the world's—irreplaceable cultural patrimony, our primary emphasis as architects in the coming days will lie outside of battle, as we articulate vision or strive to house populations. At this tenuous moment, our ambassadorial role calls for us to open our eyes and ears. Then we can avoid the imposed solution (bypassing architectural imperialism, if you will), assimilating the history of culture and place as we translate our clients' specific languages into physical form.

Today, despite the ongoing war, we American architects continue to meet clients in boardrooms in the United States and to travel abroad to pursue new work. This small airborne population of dedicated, intelligent women and men constitutes a private army of intellectual power, armed not with weaponry but with something stronger—the power to build.

While we all have been transfixed by the events in Iraq, regardless of personal opinions of the war, building always supercedes destruction. Throughout human history, it is our structures that have endured, whether in the Muslim world or in Western democracies. We are needed in the aftermath, to repair the diplomatic and physical damage that has been done and to plan for a new day, replacing firepower with brainpower—offering architecture as a step toward improved international relations for a world rich in individual cultures straining toward expression.



Good News! This year, RECORD is proud to have won a trifecta: three Jesse. H. Neal Awards, sponsored by American Business Media. Additionally, RECORD is a finalist in the General Excellence category for a National Magazine Award, sponsored by the American Society of Magazine Editors.



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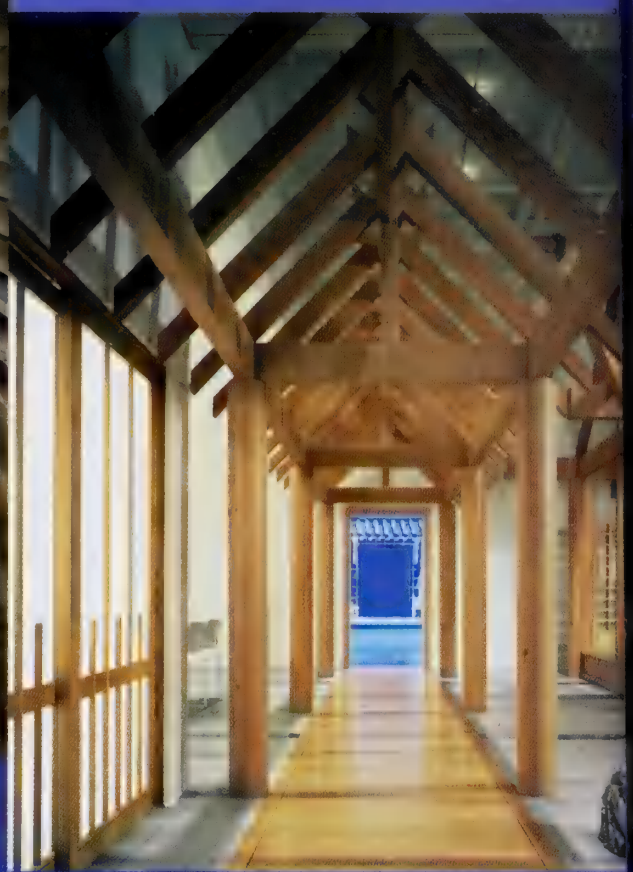
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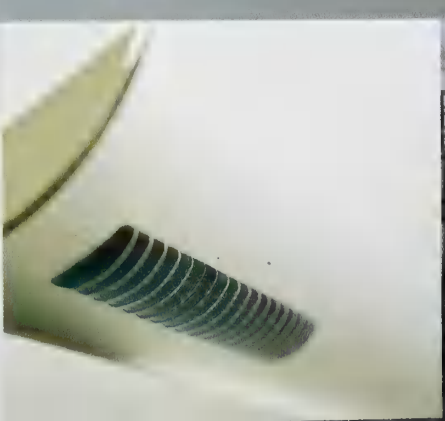




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Letters

Wherefore art we?
Thank you for the article "Where Are We Now?" [March 2003, page 88]. For years I have used the phrase "cultural bankruptcy" to describe the plight of the wealthiest nation in the world during its most recent, unprecedented period of prosperity. I believe our nation is undergoing a systematic and calculated destruction of "community." Florida, perhaps, leads the nation as a severe case of this malaise. My question to you is simply whether there exists, within the AIA, individuals who share a commitment to political change (I am not referring to a choice of parties). Who are they and how can I be of help?
—Roger Grunke, AIA
Tampa, Florida

Comfortably numb
My god! I just read the commentary on Libeskind's plan for the World Trade Center (WTC) site by Joseph Giovannini and am entirely disillusioned [Commentary, April 2003, page 89]. I cannot believe that such a spiritual and poetic proposal is becoming a numbed-down microcosm of corporate America. More so, I find it uncomprehensible why Libeskind conceded so much—granted, I am a naive fourth-year architecture student—but how? How am I to venture into this vast and varied market with enthusiasm when the most important and public commission in history does not get built to decent expectations? I had to sound off to somebody, and I am glad your magazine did, as well. I hope the "democracy" we live in does, as well, and this tragedy does not add insult to the tragedy of 9/11.
—Sean Ramseier
Arizona

Act locally
It is high time architects stimulate community conversation through the design process. The newly ignited passion for the built environment arising out of the World Trade Center designs has engendered an unprecedented interest in architecture and architects. The design for the WTC site should be only the beginning of this engagement with the public to become both aware of architecture and involved in the discussion of design. However, we can only hope the excitement and interest generated from the WTC process will be maintained and will expand to foment an interest in projects throughout the country. If we want this to continue and the community to truly take an interest in our professional contribution to society, architects must act through our professional association to continue to educate, enlighten, and challenge our communities.

Therefore, AIA must seize this moment to nurture this newly discovered awareness of architecture and architects by making relevant statements of the great qualities within each of our communities. To achieve this end, we need to promote our profession and its endeavors at a national level, but more importantly, we must support local programs to achieve a greater sense of awareness.
—Judson A. Kline, AIA
Cleveland

Careful what you wish for
Each profession goes through its cycle of highs and lows: Architecture was a focal point under Wright and Mies, business had its heyday in the 80s and 90s, medicine and science have the public's trust now. Libeskind and Bob Ivy seem to be signaling the turn of the tide as "architecture goes mainstream" [Editorial, March 2003, page 21].

We have been grumbling so long about our salaries, the public's lack of trust in us, what will happen when we suddenly get what we want? What will happen when society turns to us architects, and we are asked to lead?

When the spotlight shines on us, will we see a profession that bickers amongst itself, individuals cutting each other down to try to get ahead? Or will we see architects listening to each other's ideas, truly collaborating with themselves and with the public?
—Mimi Tsai, AIA
Chicago

A sense of scale
Mr. Campbell's comments on the recent World Trade Center proposals [Critique, February 2003, page 75] are consistent with his typically balanced observations of architecture. Unfortunately, his parenthetical "sidelight" dismissing the relevance of the World Trade Center to the Port of New York and the Port Authority agency is completely unbalanced and factually erroneous. He asserts that the original 1960s program has been seemingly resurrected for the current project. He also should have noted or understood, then, that the program's primary focus was the development of a "world trade center" to bring international trade businesses, goals, interests, and intentions together in one place. The David Rockefeller–chaired report (approximately 1960) that defined a physical embodiment for such a "center," albeit on the other side of Lower Manhattan, went so far as to further say that the existing Port of New York Authority would best be the entity to undertake and operate such a "center." That recommendation was based on acknowledging the chartered purpose of the agency. Any "world trade center" based in the New York metropolitan region was (and is), by definition, inextricably linked to the region's trade, commerce, and economy. Any "center," without question, would have to somehow involve the one regional agency established and chartered specifically to address those topics. Whether the actual WTC that evolved matched what was intended—a "center" to foster world trade—is not the issue. That is a subject for business analysts and economic philosophers, not architectural critics. Mr. Campbell's jibe of any world trade center being associated with the New York port region and the Port Authority is absolutely historically inaccurate and, moreover, casts a slur at the region and the agency.
—Jeffrey L. Bryant, AIA
Senior Architect—Planning & Engineering Group,
Capital Programs Division,
Port Commerce Department
New York City

Towering inferior
Robert Campbell's critique of the latest WTC proposals [February 2003, page 75] was refreshing to read. He dares to point out that the Twin Towers "were dreadful in every way." Most critics felt so when they were new. There was a slow real estate market for the original buildings when they were built, and Campbell points out that there are 17 million square feet of office space currently vacant in Lower Manhattan. Is the only purpose of "cloning this ancient program to satisfy the developers who hold the leases … and to collect their insurance money?" Must we "take back the [tallest building] title from Kuala Lumpur"? At least the Petronas Towers are soaring and graceful like the earlier New York City skyscrapers, very different from the "self-important new constructions" being proposed.

Even Campbell does not ask the questions that are on many people's minds: Why build another target at the site of two terrorist attacks? Who would willingly work in another such tower? Is our need to be biggest and most powerful part of the problem we have with the rest of the world?
—Henrik Bull, FAIA
San Francisco

Letters

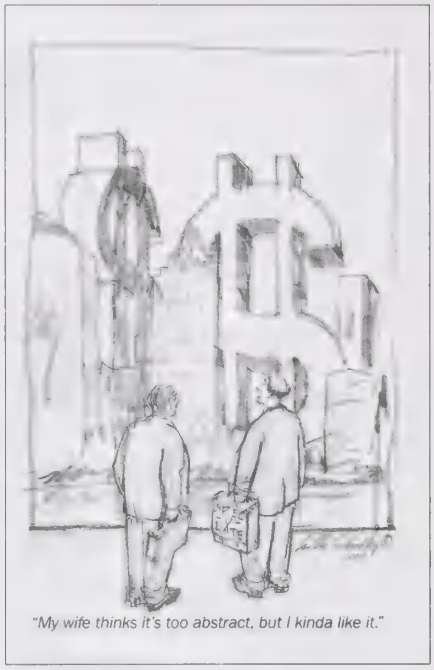
A feast of houses
This month's houses are a great selection, more varied than they've sometimes been but all elegant as hell. I'm amazed that you could gather such a collection.
—John Morris Dixon, FAIA
Old Greenwich, Conn.

Escape from streetscape
I consider one of this year's Record Houses, the Doblin Residence, to be a prime example of noncontextual design, particularly when it is taking place in the confines of a crowded urban district.

I do not contest the beauty and functionality of the interior design, and I am sure that the owners are deriving considerable joy and comfort within. But for those who pass by on the street, is a sterile wall of metal siding, relieved only by an open joint that suggests a door may possibly exist, a thing of beauty? Does it (dare I use the word) "fit" with the rest of the urban architectural fabric surrounding it?

The magazine's spread takes great pains not to show any of the adjoining or nearby properties in the photos of the facade. Would that have pointed out the incongruity of this structure set in an urban streetscape? The surrounding buildings must have visible doors, windows, sills, cornices, parapets, trim (another forbidden word), and other features that give life and vitality to an architectural project, missing in this street facade.

I guess I am somewhat old-fashioned in my belief that an architect does not work solely for his or her immediate client but is also "working" for the community at large to see that the project does not compromise life safety, welfare, or health of the public, and is contextual with the urban landscape that it purports to be a part of. *—Marvin J. Cantor, FAIA*
Fairfax, Va.


"My wife thinks it's too abstract, but I kinda like it."

The death of PoMo
I recently read your Record Houses 2003 issue. Although not stated, it seems to be your unofficial announcement of "The Death of Postmodernism." You featured eight houses. And as Sarah Amelar states, the "motif currently finds expression most often through the visable layering of materials and textures." All of these houses succeed wonderfully and creatively in this regard.

While I admire all of these houses, I wish just one had acknowledged that there was a Greek, Roman, or Egyptian civilization rather than following early Philip Johnson. I would humbly request that you contact Messrs. Graves, Stern, and Venturi, et al., before you make the official announcement of "The Death of Postmodernism."
—Michael Shannon Bissell, AIA
Bissell Architects
Jacksonville Beach, Fla.



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Letters

Pirates beware

I am familiar with the content of Alan Joch's article about software licensing [Digital Architect, April 2003, page 191]. I was the recipient of a BSA "warning letter designed to instill fear." The fear came the same way the corner merchant would cower when visited by the local underworld enforcer, "pay me or else." Joch mentioned the word piracy when referring to the end user fo software. I would like to offer a word to describe the tactics taken by the BSA—extortion.

I understand that there are violators for licensing agreements and that piracy is a problem for the software industry. What I don't agree with are the tactics the BSA and the other enforcement agencies take to intimidate. They use the law as an anvil and the fear of retribution as the hammer to get companies to "pay" for their crime. I would be curious to know how many firms such as mine are wrongly accused and end up spending thousands to defend their businesses.

As a recipient of one of these letters, I saw no effort to determine fact. The BSA provided minimal opportunity for discussion, and they provided no evidence of fact that my office violated any license agreements. Their effort to determine merit lacked consistency and basic common sense. For example, I was accused of having 12 unlicensed copies of a software program when I had only six computers in my office. When I provided them the documentation for my software, they were confused because according to their records I had one more license than what I documented. There was no satisfying the BSA's agents. They would ask for documentation, and I would provide what they asked for. They would review and then ask for more. One software license I had dated back over 12 years. I was fortunate enough to have the original disks and CDs that came with the upgrades, but they weren't satisfied. They wanted to see the receipt for the original license. Even the IRS doesn't require a business to retain receipts for that length of time.

I was fortunate; the BSA's agents backed off after two years of harassment. I don't know if I provided them resistance they didn't count on or if they finally determined I wasn't going to roll over and pay them the money they were trying to extort. In a court of law you are confronted by your accuser and it is their burden to provide evidence to support their claim. In my dealings with the BSA, I was not provided either courtesy.

As an interesting aside, I am aware of a situation where a threatening letter was sent to a small-town business. It seems they had reliable information that this business had violated several software license agreements. What they failed to find in their merit review was that the most sophisticated electronic piece of equipment used by the business was an adding machine and a 1960s vintage cash register.

—Harlan R. Faust
Omaha

Corrections

In April's Record Houses, credits for landscape for the Taghkanic House by Tom Phifer should have gone to The Office of Dan Kiley, with landscape designer Peter Morrow Meyer and project landscape architect Nanda Patel. In the March article on green roofs [page 149], photo credit for the Chiropractic Health Center should be given to Charlie Miller, Roofscapes. In the March Building Types Study about the Camino Nuevo School [page 144], photo credit should have gone to Grant Mudford.

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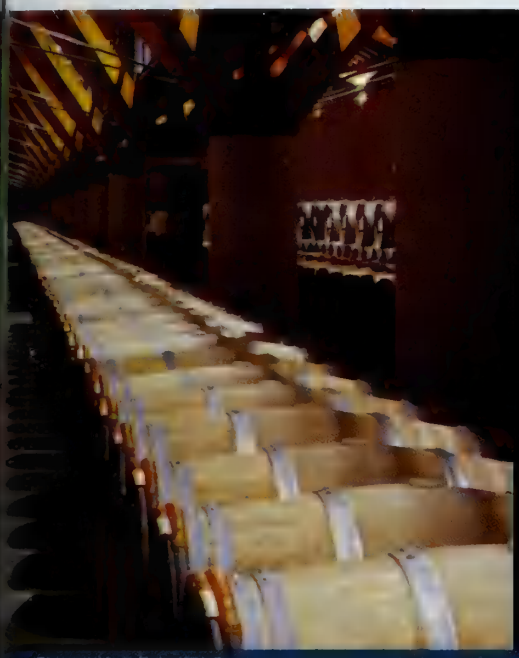
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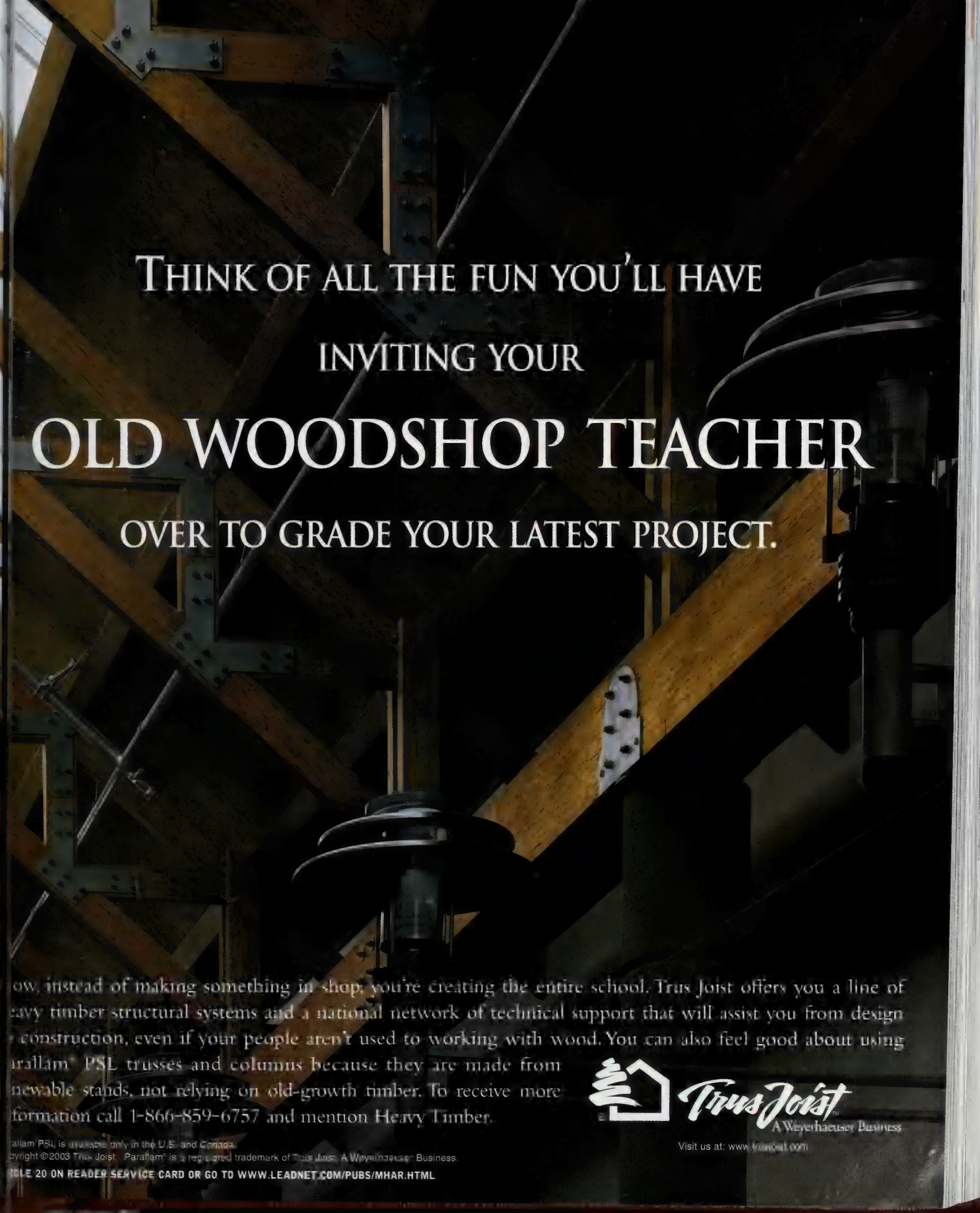
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Record News

Highlights WTC memorial competition p. 40
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AIA's Top Ten Green Projects p. 54

Denmark's Jorn Utzon wins 2003 Pritzker Prize





Jorn Utzon (below) designed (clockwise from above) the Education Centre Prototype House in Herning, Denmark (1967); Sydney Opera House (1957–73); and Kuwait National Assembly (1972–82).





Jorn Utzon, best known as the architect who designed the Sydney Opera House, has been named the recipient of the 2003 Pritzker Architecture Prize, considered the world's highest honor for a living architect. The 85-year-old Danish architect will be honored in a May 20 ceremony at the Royal Academy of Fine Arts in Madrid.

Most of Utzon's projects have been completed in his native Denmark, but it's the Sydney Opera House, an iconic building of curving roof forms, that catapulted his career. Construction began in 1959 and was not completed until 1973, and Utzon had bitter arguments with Australian officials regarding cost and schedule issues.

Pritzker Prize juror Frank Gehry, FAIA, a 1989 winner, said, "Utzon made a building [the Sydney Opera House] well ahead of its time, far ahead of available technology, and he persevered through extraordinary malicious publicity and negative criticism to build a building that changed the image of an entire country. It was the first time in our lifetime that an epic piece of architecture gained such universal presence."

Pritzker Prize jury chairman, Lord Rothschild, said, "Jorn Utzon created one of the great iconic buildings of the 20th century, an image of great beauty known throughout the world. In addition to this masterpiece, he has worked throughout his life fastidiously, brilliantly, quietly, and with never a false or jarring note. He is therefore a most distinguished recipient of the Pritzker Prize."

Utzon was commissioned in 1972 to design the Kuwait National Assembly, which was completed in 1982. The Kuwait building features an expressive concave roof form. His other projects include the Fredensborg Housing Estate (1959–62), the Kingo Housing Estate (1956–58), Bagsvaerd Church (1973–76), and the Skagen Nature Center (2001), all in Denmark.

Utzon, who lives in a house he designed on the Spanish island of Majorca, is in poor health. His sons, Jan, 58, and Kim, 46, continue the practice of Utzon Architects in Haarby, Denmark. Jan will accept the award, which includes a bronze medallion and a $100,000 grant, on his father's behalf.

The 2003 Pritzker Architecture Prize jury included Lord Rothschild, Gehry, Ada Louise Huxtable, Carlos Jimenez, Jorge Silvetti, Giovanni Agnelli (who died in January), and executive director Bill Lacy.

John E. Czarnecki, Assoc. AIA

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United States

1985 **Hans Hollein**
Austria

1986 **Gottfried Boehm**
Germany

1987 **Kenzo Tange**
Japan

1988 **Gordon Bunshaft**
United States

Oscar Niemeyer
Brazil

1989 **Frank O. Gehry**
United States

1990 **Aldo Rossi**
Italy

1991 **Robert Venturi**
United States

1992 **Alvaro Siza**
Portugal

1993 **Fumihiko Maki**
Japan

1994 **Christian de Portzamparc**
France

1995 **Tadao Ando**
Japan

1996 **Rafael Moneo**
Spain

1997 **Sverre Fehn**
Norway

1998 **Renzo Piano**
Italy

1999 **Sir Norman Foster**
Great Britain

2000 **Rem Koolhaas**
The Netherlands

2001 **Jacques Herzog and Pierre de Meuron**
Switzerland

2002 **Glenn Murcutt**
Australia

2003 **Jorn Utzon**
Denmark

REBUILDING LOWER MANHATTAN

OFF THE RECORD

A $36 million portion of President Bush's $74.7 billion supplemental budget request for the war with Iraq was earmarked for a new U.S. embassy in Baghdad.

After a number of false starts, construction began in early April on the Holocaust Memorial in Berlin, designed by Peter Eisenman. It is likely to be completed by May 8, 2005, the 60th anniversary of the Nazi defeat. Eisenman, Cornell class of 1955, was given Cornell's Committee on the Arts and Council for the Arts Distinguished Alumni Artist Award for 2002–03.

The New World Symphony of Miami Beach has hired Frank Gehry, FAIA, to design a performance, rehearsal, and teaching facility. The New World Symphony is the only postgraduate training orchestra in the U.S.

Minneapolis-based Ellerbe Becket International has designed a 3-million-square-foot retail and entertainment complex for Dalian, China. Ground breaking was in March, and construction will be completed by 2006.

Abraham Zabludovsky, a Mexican Modernist architect, died on April 9 at age 78. He was perhaps best known for his design of the Rufino Tamayo Museum and his renovation of the National Auditorium in Mexico City.

Maya Lin will be honored with Denmark's Finn Juhl Architecture Award in a ceremony on May 6 at the Danish Museum of Decorative Arts in Copenhagen.

Zaha Hadid, Frank Gehry, and Mack Scogin/Merrill Elam Architects are on the shortlist to design the University of Connecticut's new $30 million School of Fine Arts building, which will include an opera hall, recital hall, concert hall, media resource center, and studio. The winner will be named this summer.

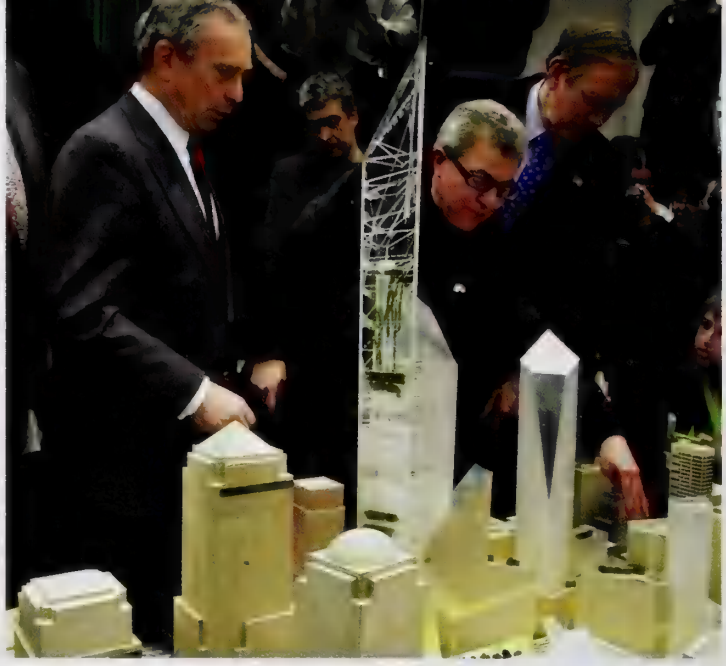
Politics and legalities now focus for WTC

In the two months following the selection of the master plan by Daniel Libeskind for the World Trade Center (WTC) site, the political and legal maneuverings have been grabbing headlines. At the end of March, it appeared that a potential land swap involving the city and the Port Authority of New York and New Jersey was imminent, but the holder of the retail lease, Westfield America, is not pleased with Libeskind's design.

The Port Authority has made an offer in which the City of New York would acquire both the WTC site from the Port Authority and cash in the range of $500 to $700 million in exchange for LaGuardia and Kennedy Airports, which are leased by the Port Authority. At issue is the city's desire to maintain some control over the airports. The Port Authority is jointly controlled by New Jersey Governor James McGreevey and New York Governor George Pataki. According to *The New York Observer*, McGreevey has voiced skepticism regarding the potential swap, but Pataki is said to support a deal. Negotiations continued at press time, and a decision is likely by July, at the latest.

Meanwhile, Westfield America, the American subsidiary of the Australia-based retail development giant that holds the lease for the retail component of the site, is concerned that its interests are ignored in Libeskind's plan. Westfield sent a letter on March 14 to Joseph Seymour, executive director of the Port Authority, which stated, in part: "We do not believe that the Port Authority or the [Lower Manhattan Development Corporation] has given proper consideration to our best professional judgment, much less to our rights or commercial interests, or to any additional alternatives that would safeguard our interests."

The *Observer* reported on April 14 that both Libeskind and the Think team presented to Westfield America representatives in February, but "one Westfield source said that the company had felt 'lectured at' by Libeskind." *J.E.C.*



At the February announcement of Libeskind's master plan, Libeskind (center) describes the model to Mayor Bloomberg (left) and Governor Pataki (right).

Registration started and jury named for WTC memorial competition

Registration began April 28 for the competition to design a memorial at the World Trade Center site, and all entrants must register by May 29 to submit a design. A winning proposal will be selected in fall 2003. Visit www.renewnyc.com for more information.

The 14 jurors for the memorial competition are architect and artist Maya Lin, who designed the Vietnam Veterans Memorial in Washington, D.C.; Mexico City–based architect Enrique Norten, who won a competition to design a new arts library in Brooklyn, New York; New York City– and Cambridge, Massachusetts–based landscape architect Michael Van Valkenburgh; James Young, the chairman of the Department of Judaic and Near Eastern Studies at the University of Massachusetts, Amherst, and author of *At Memory's Edge: After-Images of the Holocaust in Contemporary Art and Architecture*; Paula Grant Berry, whose husband, David Berry, died in the South Tower of the World Trade Center; Deputy Mayor for Administration Patricia Harris, who advises Mayor Bloomberg on arts and cultural issues; Susan Freedman, president of the Public Art Fund; Michael McKeon, a managing director of Mercury Public Affairs, a political consulting firm, and a former director of communications for Governor Pataki; Lowery Stokes Sims, the executive director of the Studio Museum in Harlem; David Rockefeller, the former head of Chase Manhattan and a leading force in the original development of the World Trade Center; Nancy Rose, who has a private arts consulting firm and has served as an adviser and panelist for the New York State Council on the Arts; Vartan Gregorian, the president of the Carnegie Corporation of New York and former president of Brown University; and Julie Menin, founder of the Wall Street Rising organization. *J.E.C.*

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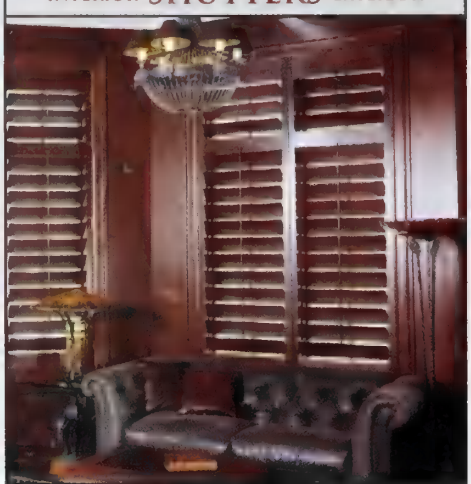
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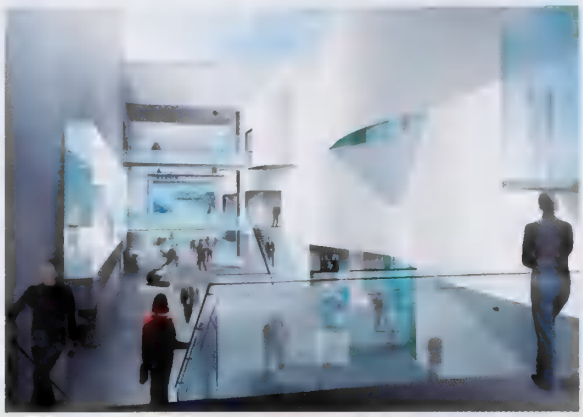
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Mather design unveiled for Virginia Museum of Fine Arts



Mather's design includes a sculptural, expansive interior.

The Virginia Museum of Fine Arts (VMFA) will begin construction in 2004 on a $100 million addition designed by Rick Mather. The museum, located in Richmond, selected Mather from a shortlist that included Smith-Miller Hawkinson, Hardy Holzman Pfeiffer, and Polshek Partnership. This is the first major U.S. commission for Mather, an American architect practicing in London.

Mather's 100,000-square-foot stone-and-glass extension, which will open in 2007, breaks with the museum's revivalist roots. The VMFA's original neo-Georgian building, which opened in 1936, was designed by the Norfolk, Virginia, firm Peebles and Ferguson. The VMFA has added to that structure four times, most recently with a 1985 addition by Hardy Holzman Pfeiffer.

Mather's design remedies circulation problems with the existing complex. The Peebles and Ferguson main entrance, for example, is on the museum's eastern elevation and faces The Boulevard, one of Richmond's main thoroughfares. As the museum expanded, the entry was shuttered in favor of direct access from the parking lot. The forthcoming extension reorients the museum entrance to The Boulevard and includes the "East Window," which looks into a triple-height atrium. Mather says the glazed surface will "engage the city—it will make the buildings seem like one thing, and make it easy to see the whole museum."

Existing buildings will be retrofitted with green features, such as a displacement ventilation system. Mather claims the complex will be 80 percent more energy efficient than it is today. The VMFA will seek LEED certification.

A new north-facing entry plaza will include a tall glazed volume with liquid-crystal technology on the surface to display video.

Mather has incorporated with local firm SMBW to implement the design. Olin Partnership is the landscape architect for the museum's sculpture garden, part of which will also be a green roof for a new parking deck. *David Sokol*



The addition (right) is shown in section (below). It is scheduled to open in 2007.



Digital marries da Vinci.



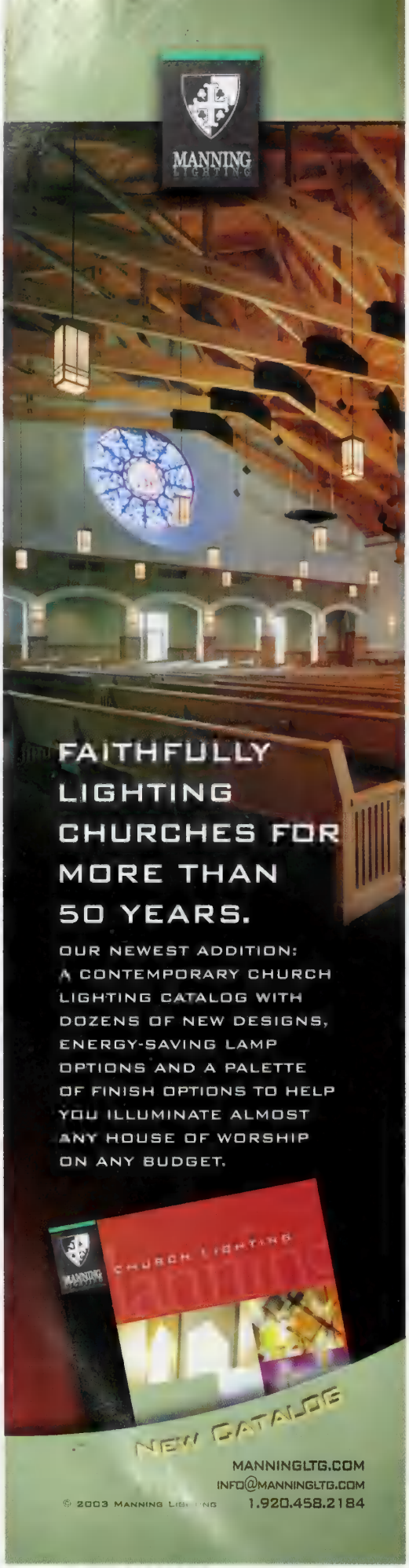
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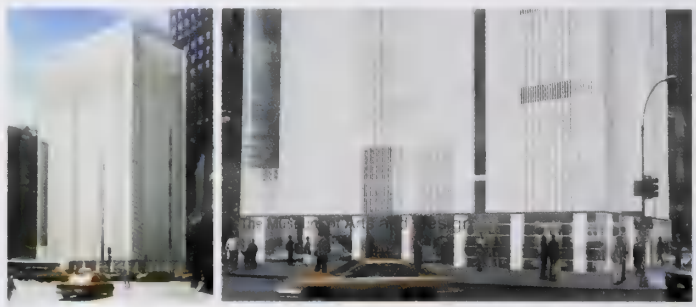
Cloepfil design for 2 Columbus Circle draws preservationist ire

Although 2 Columbus Circle—a 10-story gallery designed by Edward Durell Stone in 1964—is not an official landmark, New York City preservationists are preparing to fight the $50 million redesign of the building by Brad Cloepfil of Allied Works for the new home of the Museum of Contemporary Art and Design.

The redesign replaces the idiosyncratic building's crumbling white marble cladding with, according to Cloepfil, "somewhat diaphanous" terra-cotta panels punctuated by vertical glazed openings. He says the strategy increases the museum's visibility by "giving an idea of what's happening inside," and allows daylight into the galleries.

But the new exterior spells the end of the existing portholes and sidewalk arcade of lollipop columns. To preservationists, Cloepfil's "design treats these remarkable elements as though they were expendable, if not contemptible," Kate Wood, executive director of Landmark West, wrote in a letter to *The New York Times*.

Cloepfil responds: "People have definite associations with the decoration, but I also think the building's singularity, monumentality—the color of it, even—are just as evocative."



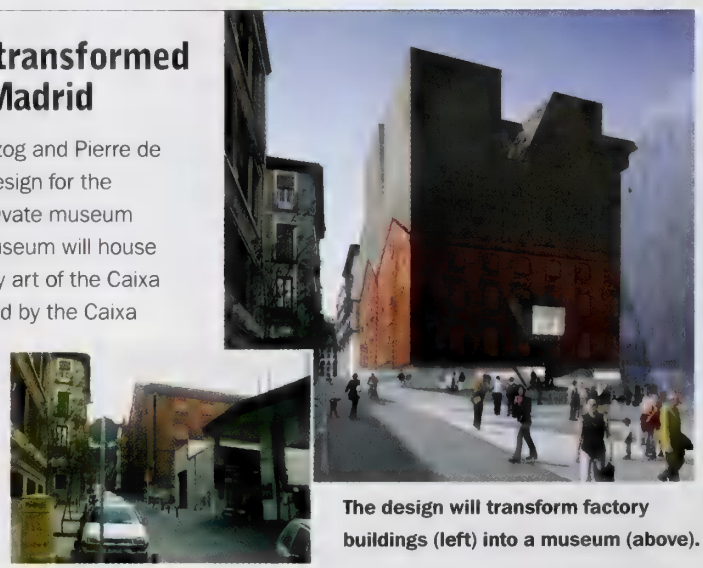
Terra-cotta panels may replace the building's white marble exterior.

The scheme also redefines the interior. Full floors will be constructed in lieu of the original half-story intervals. Glass columns, with artwork inside, will run vertically through the 54,000-square-foot space.

The City Planning Commission must approve Cloepfil's design before the museum can purchase the building and reconstruction can begin. *D.S.*

Factory buildings transformed into CaixaForum-Madrid

Swiss architects Jacques Herzog and Pierre de Meuron have unveiled their design for the CaixaForum-Madrid, a new private museum in the Spanish capital. The museum will house the collection of contemporary art of the Caixa Foundation, which is supported by the Caixa Savings Bank (a sister institution opened in Barcelona last year, in a factory refurbished by Arata Isozaki and local architect Roberto Luna). A pair of early-20th-century factory buildings a few steps from the Paseo del Prado are presently on the site. The museum will be connected to the Paseo by a small plaza currently occupied by a gas station (pictured, left).



The design will transform factory buildings (left) into a museum (above).

Herzog and de Meuron's plans call for a radical restructuring of the original brick buildings. The architects suggest removing the granite bases and leaving the brick shells, creating a covered entry plaza that occupies the entire site. The levitation of the buildings, they explain, resolves "problems such as the narrowness of the surrounding streets, the placement of the main entrance, and the architectural identity of the institution in a single sculptural gesture."

An auditorium and the museum's technical and service spaces are located below the plaza, with the exhibition galleries and other public facilities above. A metal-clad superstructure, which will rise to a series of inclined planes, will be above the original brick walls. The $25 million museum will be completed in 2005. *David Cohn*

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Toronto's Union Station to undergo restoration and renovation





Zeidler Grinnell will reconfigure passageways (above). The "moats" (top) around Toronto's Union Station will have glass roofs.

Downtown Toronto's grand old Union Station is soon to be restored. But earlier development plans for a boutique hotel and office space on the site are "not part of the discussions with the city at the moment," Cubie Dawson, the codirector of the project at Jones Lange LaSalle in New York, said. Zeidler Grinnell Partnership Architects of Toronto has designed the $120 million historic restoration and renovation, which includes the addition of nearly 160,000 square feet of retail space. Construction, to be funded by the private sector, is expected to begin in early 2004.

The project is being developed by the Union Pearson Group, a consortium of U.S. and Canadian firms that includes Olympia & York and Jones Lange LaSalle, veterans of the restoration and redevelopment of both Grand Central Station in New York City and Union Station in Washington, D.C. Union Pearson Group was chosen by the City of Toronto in August 2002 following a controversial closed-selection process, in which names of the firms on the two finalist teams were not disclosed. The losing team of New York firm Beyer Blinder Belle, architects of New York's Grand Central restoration, and Rem Koolhaas and his Office for Metropolitan Architecture (OMA), envisioned a large civic square adjoining the station.

The resulting "harangue" related to the selection process—as Eb Zeidler, senior partner at Zeidler Grinnell, put it—has delayed the ratification of the city's master agreement with Union Pearson. Initial plans called for the development of station's air rights with a boutique hotel and office space designed by Helmut Jahn of Murphy/Jahn Architects. Jahn's firm no longer has a role in the project.

Zeidler's design will direct more traffic through the station's refurbished Great Hall, and will enclose and beautify the "moats" surrounding the station. Zeidler stressed the limited focus of the development plan. "Our task is basically restricted to the rebuilding of the station's head house," he said, adding, "the city has taken away any ability to increase the density."

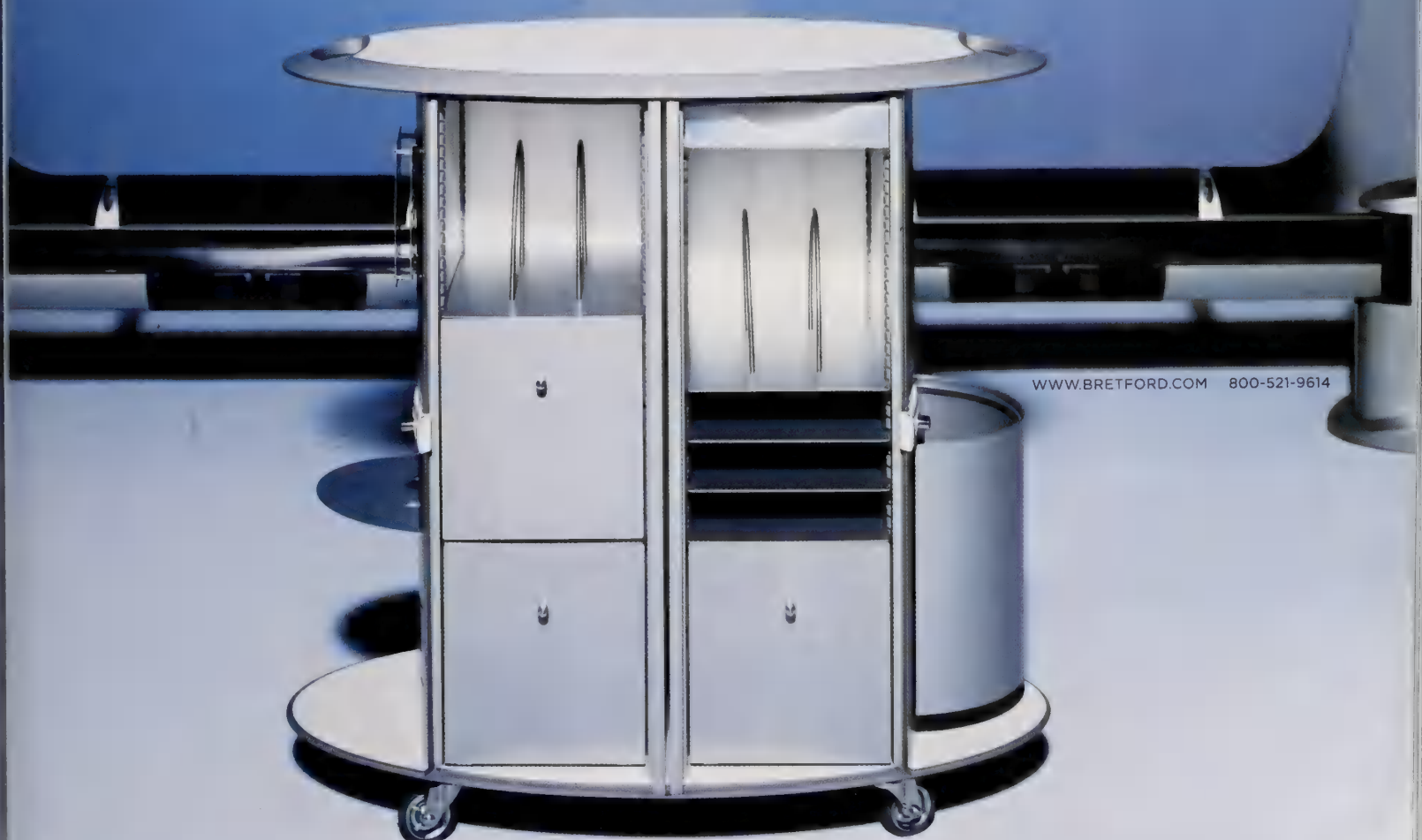
Dawson at Jones Lang LaSalle said that the design is "sensitive to the transportation needs of the project," and includes a "merchandising plan that's tailored to Torontonians," particularly the 100,000 commuters who pass through the station each day. "The entire project will be a unique complement to a lot of the attractions in that area of Toronto," Dawson added. *Andrew Blum*

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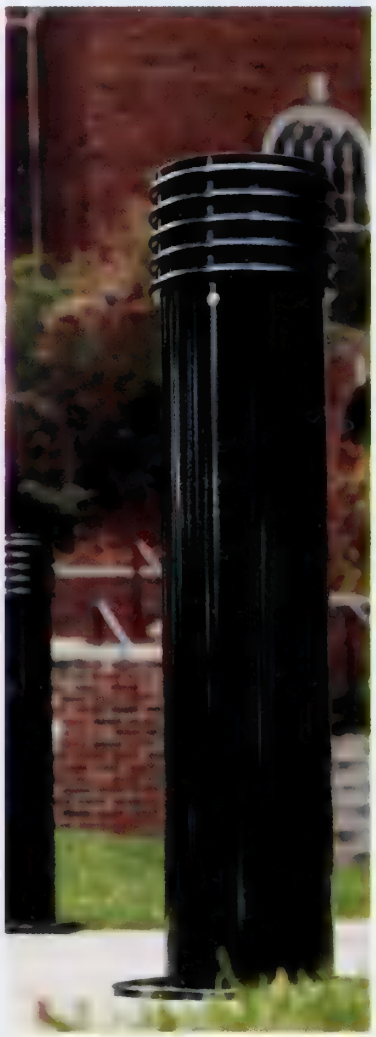
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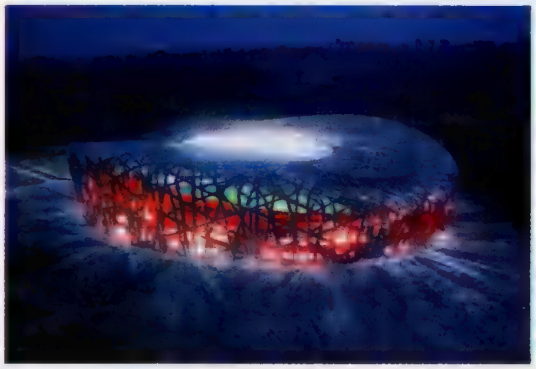
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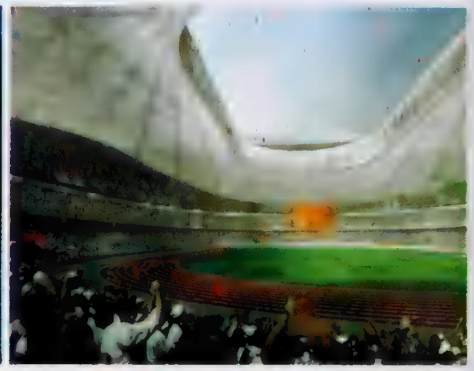
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Herzog and de Meuron win Beijing Olympic stadium project

Swiss architects Jacques Herzog and Pierre de Meuron have won a competition to design the Olympic stadium for the 2008 summer games in Beijing. Herzog and de Meuron was one of 14 invited firms in the competition.

The 100,000-seat stadium, with three tiers and a sliding roof, will host the Olympic opening and closing ceremonies, as well as track and field and other athletic events. Herzog and de Meuron were inspired by the interwoven twigs of a bird's nest for the exterior structure. The gaps in the structure will be filled with inflated cushions, according to the architects. Herzog says, "We wanted to get away from the usual technocratic stadiums with their architecture dominated by spans and digital screens. (The design) is simple and almost archaically direct in spatial impact."

Harry Gugger, the partner in charge for the stadium project, told Swissinfo, "I think we sort of reinvented stadium architecture. You can't change the basic form of a stadium, but you can add a new architectural quality."

Herzog and de Meuron consulted with Chinese artist and curator Weiwei Ai and the China Architecture Design and Research Group for this, the firm's first project in China. The firm has also recently won the commission for a stadium in Basel, Switzerland—St. Jakob's Park stadium—for the Swiss soccer team FC Basel and is designing the stadium for the 2006 World Cup soccer games in Munich. *J.E.C.*

The stadium has an oval bowl (above right) and a structure similar to interwoven twigs (above left).

Scholars discuss Modernism and the Middle East

A group of scholars gathered in early April at the Yale School of Architecture for a symposium, "Local Sites of Global Practice: Modernism and the Middle East." As architects and historians discussed the charged history of development in the region, United States troops were nearing Baghdad.

The war that has dominated the headlines was too immediate for analysis, and most talks focused on history. Topics ranged from the Italian colonization of Libya in the 1930s to the barracklike refugee settlements constructed in the late '40s in Israel, from Frank Lloyd Wright's unbuilt projects for Baghdad in the 1950s to the Postmodern towers that transformed Dubai in the '80s. Certain themes were persistent, such as the uneasy relationship between modernity and tradition, progress and preservation, global and local. Yale anthropologist Arjun Appadurai argued that these categories limit understanding—that local and global "cannot be dichotomized," for each influences the other in complex ways. Still, for Western architects, certain difficult realities were hard to avoid. As Hasan-Uddin Khan, a professor of architecture at Roger Williams University, in Bristol, Rhode Island, discussed "hybrid architecture" in the Gulf States, it became clear that much of the work by American and European architects—hotels, airports, and ministries with designs whose forms are meant to suggest Arab dhows or Bedouin tents—now symbolizes what many in the region see as hubris, if not oppression.

Yet architecture is inevitably a key component in nation building. Hashim Sarkis, professor of architecture at Harvard, showed projects—housing, an agricultural center, and a school—commissioned by nongovernmental organizations (NGOs) as part of Lebanon's post–civil war rebuilding. Sarkis says, "NGOs fill a need throughout the developing world." *Nancy Levinson*

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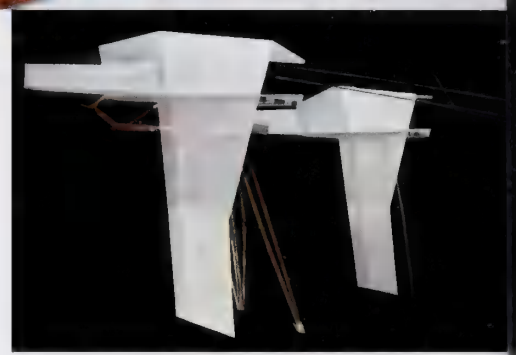


L.A. firm wins competition for Portland aerial tram

The Los Angeles and Zurich–based firm Angelíl/Graham/Pfenninger/Scholl Architecture has won an international design competition for an aerial tram in Portland, Oregon.

Budgeted at approximately $15 million, the tram will connect Oregon Health Sciences University, which lies atop Marquam Hill overlooking downtown Portland, with the newly rezoned South Waterfront neighborhood immediately below, which will be transformed in upcoming years from shipyards to biomedical research facilities and mixed-use development. Only the second aerial tram in the United States (the other stretches over the East River in New York City), the project has been subject to a pitched battle between the city, which favors the plan, and residents of an historic neighborhood over which the tram will pass, who oppose it.

This is the first major design competition Portland has hosted since Michael Graves won the Portland Public Service Building commission more than 20 years ago. Managed by Reed Kroloff for Portland Aerial Transportation, the competition saw Angelíl/Graham/Pfenninger/Scholl chosen over three other finalists: SHoP/Sharples Holden Pasquarelli of New York, UN Studio of Amsterdam, and the engineering firm Guy Nordenson and Associates of New York. According to juror Diana Goldschmidt, the proposal by Angelíl/Graham/Pfenninger/Scholl architects was chosen, in part, for "the way they think and approach problem solving, and how they apply that process to a controversial project."



Angelíl/Graham/Pfenninger/Scholl's proposal has a sculptural upper tram station (above).

In presenting their design concepts to the jury, husband-and-wife architects Marc Angelíl and Sarah Graham likened the pieces of the tram to various symbolic imagery: The upper tram station extends from its hilly foundation like a ballet dancer; a Minimalist-looking pedestrian bridge was compared to a rubber band stretched over a stone; and the tram cars will be transparent—like soap bubbles. The lower station contains a combination platform and roof covered in grass, so that from above, the cars will seem to disappear into the earth. *Brian Libby*







Finalist tram station designs by (clockwise from above left) SHoP, Guy Nordenson and Associates, and UN Studio.

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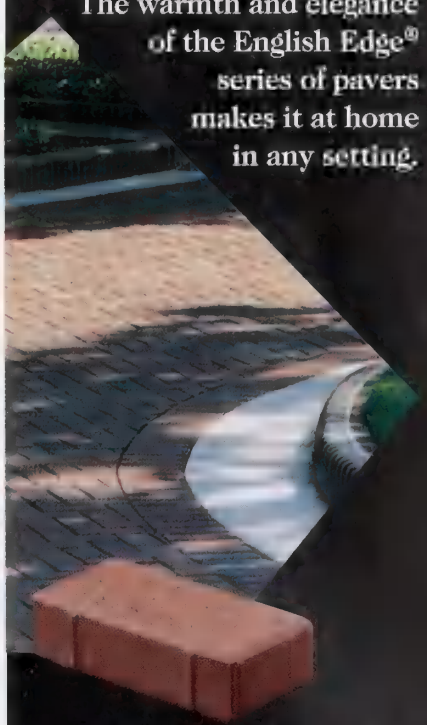


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2002 GSA Design Awards honor best public architecture

The General Services Administration (GSA) has announced the recipients of the 2002 GSA Design Awards for outstanding public architecture. The National Building Museum in Washington, D.C., is exhibiting the winning projects through October 19. Below are the winners in 11 of the 17 categories.



Poste Restaurant, Hotel Monaco.

Architecture

Harvey W. Wiley Federal Building, Center for Food Safety and Nutrition, College Park, Maryland: Kallmann McKinnell & Wood Architects; **Pacific Highway U.S. Port of Entry**, Blaine, Washington: Thomas Hacker Architects.

On the Boards

United States Courthouse, Eugene, Oregon: Morphosis; **Census Bureau Headquarters**, Suitland, Maryland: Skidmore, Owings & Merrill; **Temecula Border Patrol Station**, Murietta, California: Garrison Architects; **National Oceanic and Atmospheric Administration Satellite Operations Facility**, Suitland, Maryland: Morphosis.

Art Conservation

State Pride and ***Justice***, by Leo Friedlander, Nashville: Catherine S. Myers of Art Conservation Associates.

Engineering/Technology

Wallace F. Bennett Federal Building, Salt Lake City: Reaveley Engineers & Associates.

Workplace Environment

Office of the Chief Architect, GSA, Washington, D.C.: Lehman-Smith McLeish.

First Impressions

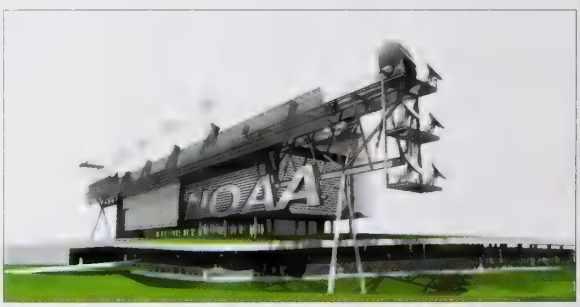
James A. Byrne U.S. Courthouse, Philadelphia: MGA Partners; **Martinsburg Federal Building and U.S. Courthouse**, Martinsburg, West Virginia: Lehman-Smith McLeish.

Graphic Design

GSA Design Excellence Monograph Series, Washington, D.C.: Chermayeff & Geismar; **GSA Historic Building Poster Series**, Washington, D.C.: Cox & Associates; **Jacob Weinberger U.S. Courthouse Booklet**, San Diego: Rightside Imaging; **Sandra Day O'Connor U.S. Courthouse Tenant Guide**, Phoenix: Ray Vote Graphics.

Historic Preservation, Restoration, Renovation

José V. Toledo U.S. Post Office and Courthouse, Old San Juan, Puerto Rico: Finegold Alexander + Associates; **U.S. Courthouse**, Camden, New Jersey: MGA Partners, Art Conservation Associates; **Ariel Rios Federal Building Facade Completion**, Washington, D.C.: Karn Charuhas Chapman & Twohey; **Harry S. Truman Presidential Library and Museum**, Independence, Missouri: Gould Evans.



NOAA Satellite Operations Facility, by Morphosis.

Sustainability

Environmental Protection Agency Research and Administration Facility, Research Triangle Park, North Carolina: Hellmuth, Obata + Kassabaum.

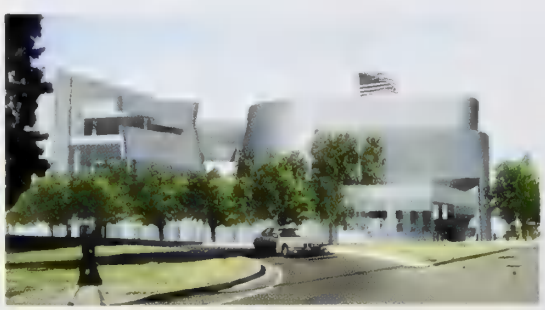
Interior Design

Poste Restaurant, Hotel Monaco, Washington, D.C.: Adamstein & Demetriou Architects.

Construction Excellence

Wallace F. Bennett Federal Building, Salt Lake City: Big-D Construction Corporation; **Ariel Rios Federal Building Modernization—Phase II**, Washington, D.C.: Grunley Construction Company; **James H. Quillen U.S. Courthouse**, Greeneville, Tennessee: Caddell Construction Company.

Kevin Lerner



The U.S. Courthouse in Eugene, Oregon, by Morphosis.



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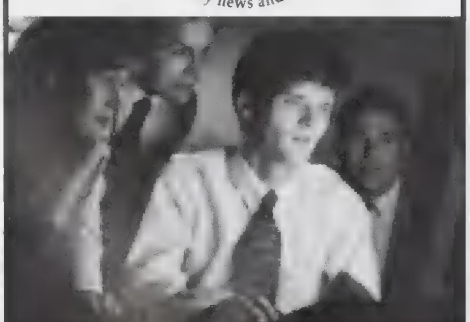
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The AIA Top 10 Green Projects announced on Earth Day include (from top) Wine Creek Road Residence; Argonne Child Development Center; Cusano Environmental Education Center; and Herman Miller MarketPlace.

California dominates 2003 AIA Top 10 Green Projects



A housing complex, an education center, and a forensics laboratory were among the 2003 Top 10 Green Projects announced by the AIA's Committee on the Environment (COTE), in partnership with the U.S. Department of Energy, on Earth Day, April 22.

This is the sixth year of the Top 10 program. Only one of the 10 winners is located outside the United States: the **Steinhude Sea Recreation Facility**, in Germany, by Randall Stout Architects of California. For the first time, every winning U.S. project is located in the same state as the architects that designed it. Five are in California: the **Wine Creek Road Residence** in Healdsburg, by Siegal & Strain Architects; the **Argonne Child Development Center** in San Francisco, by 450 Architects; the **Hidden Villa Hostel & Summer Camp** in Los Altos Hills, by Arkin Tilt Architects; **Colorado Court** in Santa Monica, by Pugh Scarpa Kodama; and HOK's **San Mateo County Forensics Laboratory** in Redwood City. The remaining four winners are the **Cusano Environmental Education Center** in Philadelphia, by Susan Maxman & Partners, Architects; the **Chicago Center for Green Technology**, by Farr Associates Architecture and Urban Design; the **Herman Miller MarketPlace** in Zeeland, Michigan, by Integrated Architecture; and **Fisher Pavilion** in Seattle, by The Miller/Hull Partnership, the 2003 AIA Firm of the Year.



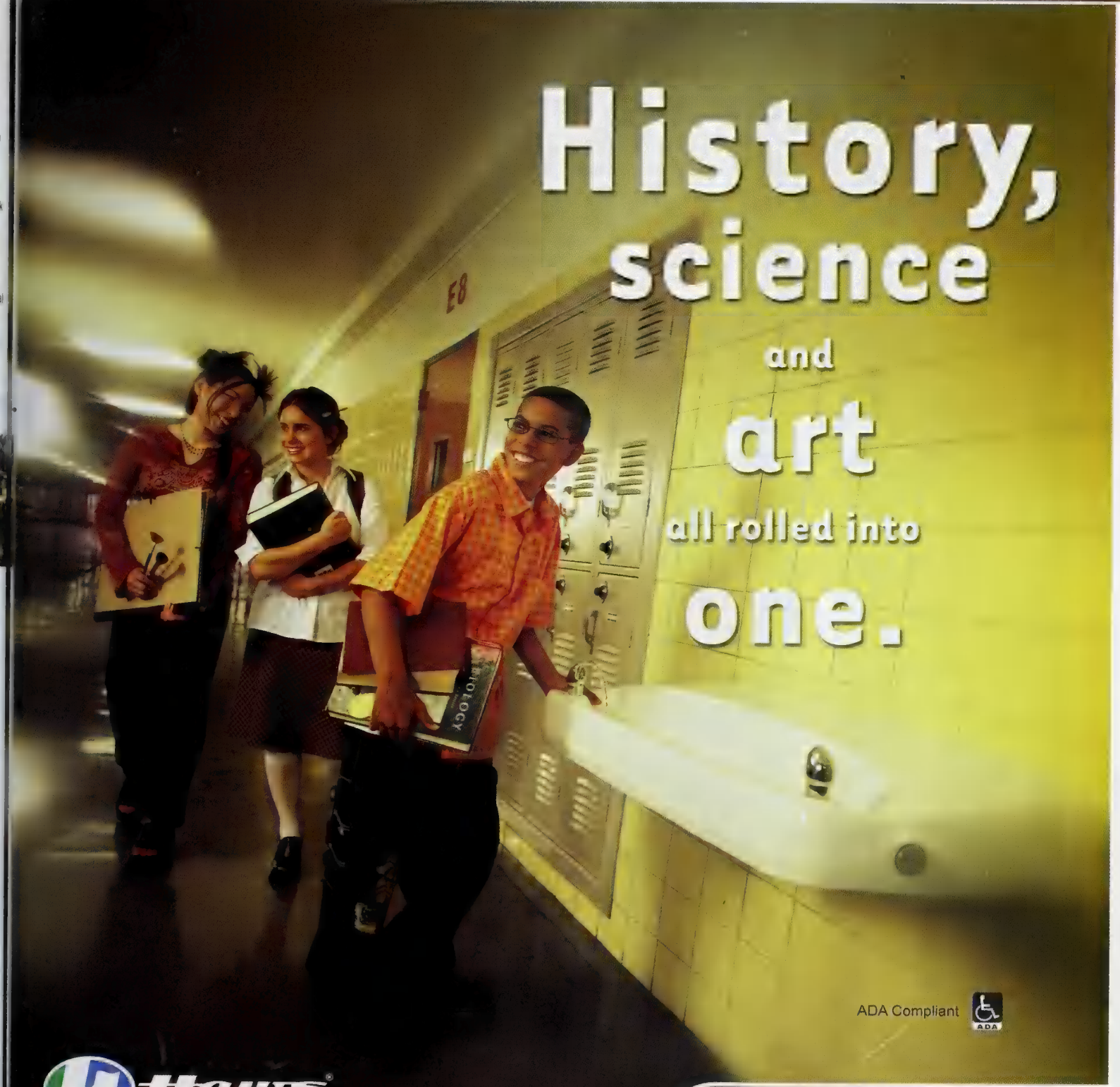


The jury for this year's awards included Carol Ross Barney, FAIA, Peter Bohlin, FAIA, Doug Kelbaugh, FAIA, Jacqueline Rose, AIA, and Drury Crawley, AIA. Jurors did not know who designed the projects until the winners were chosen, but Kelbaugh, dean of the Taubman College of Architecture and Urban Planning at the University of Michigan, told RECORD he was not surprised to find local firms leading the pack. "Environmentally sensitive design is very site-specific," he said. "It requires intimate knowledge of the local climate and building practices."

Building performance data was required for the first time this year, and the scope of the awards was expanded to include urban projects as well as buildings.

The COTE Top 10 will be on display at the AIA national convention in San Diego, May 8–10.

Deborah Snoonian, P.E.



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News Briefs

Chipperfield to design Berlin gallery London's David Chipperfield Architects has been selected to design the Berlin gallery building Hinter dem Giesshaus 1 (pictured, right). The invited competition included finalists Frank Gehry, Peter Zumthor, Hans Kollhoff, and Ron Radziner.

The gallery will be on a city street facing Berlin's Museum Island and, according to a statement by Chipperfield, the new building will frame Museum Island and be designed so that it "is not confused with the buildings it overlooks." The exterior will be composed of Saxon sandstone block, which, Chipperfield says, "achieves a calm solidity." Moreover, a series of "monumental openings reflect the urban scale as well as the order of the neighboring buildings." Inside, the loftlike space will include exposed concrete ceilings and clerestory glazing.



Gallery (center) will have "monumental" windows.

Moynihan, former senator and design advocate, dies Daniel Patrick Moynihan, the former four-term senator from New York and an advocate of architecture preservation, urban development, and mass transit, died on March 26 of complications from surgery earlier that month. He was 76.

Moynihan was instrumental in the redevelopment of Pennsylvania Avenue in Washington, D.C., a project first conceived during the Kennedy administration. He helped shape the Pennsylvania Avenue Development Corporation in the early 1970s, and his efforts led to the construction of new buildings along the boulevard as well as the restoration of structures. He also advocated the preservation of buildings such as New York City's Customs House and the former main post office in Washington, D.C. Recently, Moynihan had worked to ensure the conversion of New York City's main post office into a new home for Pennsylvania Station. The new station will be across the street from the site of the McKim, Mead and White Pennsylvania Station, the destruction of which in the early 1960s helped to spur the historic preservation movement. The new station will be named after Moynihan. *K.L.*



Daniel P. Moynihan

KPMB to design new home for Toronto film fest In April, the Toronto International Film Festival Group (TIFFG) announced its plans to construct a flagship Festival Centre in downtown Toronto that would consolidate all of TIFFG's programs under one roof. The building will house offices, exhibition areas, archives, and a film library. Toronto-based architecture firm Kuwabara Payne McKenna Blumberg will design the five-story building, which will include a condominium tower. KPMB was selected from among finalists Kohn Pedersen Fox and Kohn Shnier.

D.C. Convention Center opens The nation's most expensive convention center and Washington, D.C.'s largest building, the Washington Convention Center, opened on March 29. The 2.3-million-square-foot facility cost $834 million to construct, $120 million more than the price estimated at its 1998 ground breaking.

The limestone-and-glass building was designed by Thompson, Ventulett, Stainback and Associates with Mariani Architects Engineers and Devrouax & Purnell. It covers six square blocks in the city's Shaw neighborhood. To fit the building into the area, the designers placed 40 percent of the it below grade and split the aboveground portion into three sections. Segmentation of the building's masses also preserves the city grid of L'Enfant's master plan.



The limestone-and-glass convention center occupies six square blocks.

The city's 800,000-square-foot convention center, completed in 1983, will be demolished. City officials are currently considering development options for that 10-acre site.



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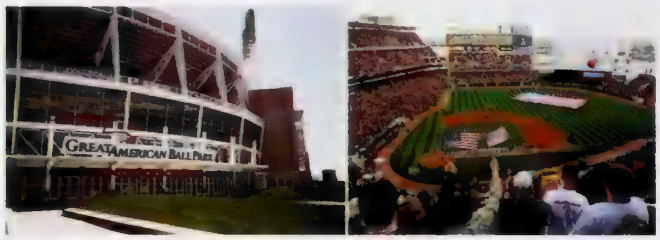
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News Briefs

Cincinnati Reds open ballpark The Cincinnati Reds, the oldest professional baseball team, opened its new ballpark, Great American Ball Park, on March 31. Designed by HOK Sport+Venue+Event with GBBN Architects, the new ballpark replaces Cinergy Field (formerly Riverfront Stadium), which had been home to the Reds and the football Cincinnati Bengals since 1971. The 42,263-seat ballpark is on the Ohio River, immediately adjacent to the site of Cinergy Field, which has been demolished. A nearby riverfront stadium for the Bengals—Paul Brown Stadium—has been in operation for three seasons. Great American Ball Park is an open-air ballpark with views of the river and the Kentucky shore. It is the only new major league park to open this year; ballparks in San Diego and Philadelphia will open in 2004. *J.E.C.*



Great American Ballpark (left) opened to fanfare on March 31 (right).

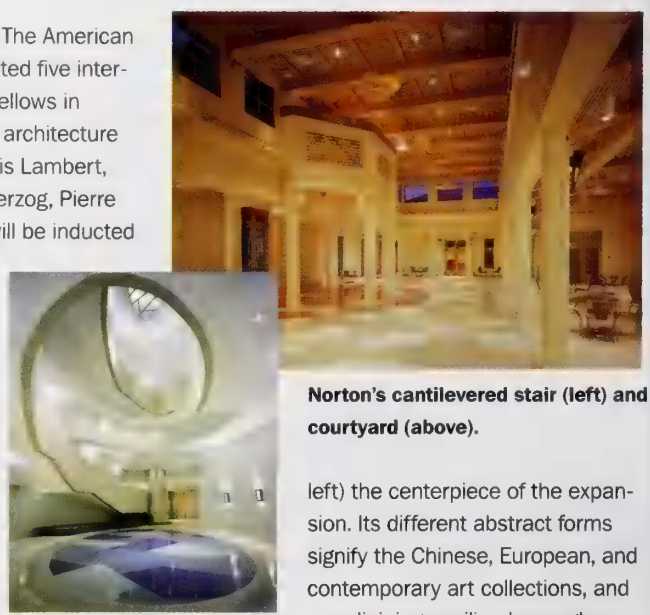
AIA names honorary fellows The American Institute of Architects (AIA) has elected five international architects to be honorary fellows in recognition of their contributions to architecture and society. The honorees are Phyllis Lambert, Jean Marie Charpentier, Jacques Herzog, Pierre de Meuron, and Il-in Hwang. They will be inducted as honorary fellows on May 9 at the Salk Institute in La Jolla, California.

Guggenheim Museum to open Brazilian satellite Despite sagging finances that forced it to temporarily shutter one Las Vegas branch and abandon plans to build a Frank Gehry–designed museum in Lower Manhattan, the Guggenheim Foundation is close to signing an agreement to open a museum in Rio de Janeiro, although an official announcement has not been made. The building, designed by Jean Nouvel, will be partially submerged in Guanabara Bay. Exterior glazing will admit natural light into galleries below the water line, and a large cylindrical volume, including an observatory gallery and restaurant, will rise above it. Construction is expected to begin this summer, with completion scheduled for late 2006.

Public money will fund the $150 million project, which Rio de Janeiro officials hope will revitalize the dock district. The city has agreed to pay the Guggenheim $25 million for the right to access all of the museum's collections for the next 50 years, according to *The Art Newspaper*. Opponents of the pending contract criticize the Guggenheim's choice of a foreign architect, as well as the city's neglect of its existing Museu do Arte Moderno.

Norton expansion opens to public The Norton Museum of Art in West Palm Beach, Florida, opened its 45,000-square-foot addition in March. Designed by Chad Floyd, FAIA, of Centerbrook Architects, the $20 million Gail and Melvin Nessel Wing includes 14 galleries, a glass-enclosed courtyard, and a three-story atrium. The state's largest museum, the building now has 122,500 total square feet.

Museum officials call the oval atrium (lower left) the centerpiece of the expansion. Its different abstract forms signify the Chinese, European, and contemporary art collections, and an adjoining pavilion has a glass ceiling commissioned from Dale Chihuly. The Norton Museum of Art's original 1941 building was designed by Marion Syms Wyeth. Centerbrook Architects was responsible for the museum's first expansion, a 77,500-square-foot project completed in January 1997. *News Briefs by David Sokol unless otherwise noted.*



Norton's cantilevered stair (left) and courtyard (above).



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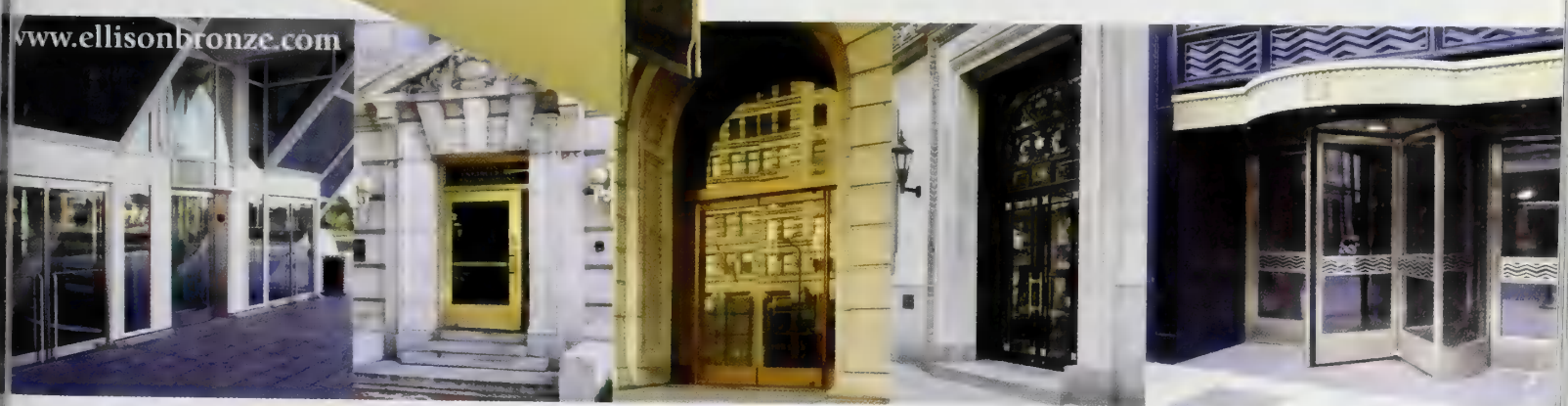
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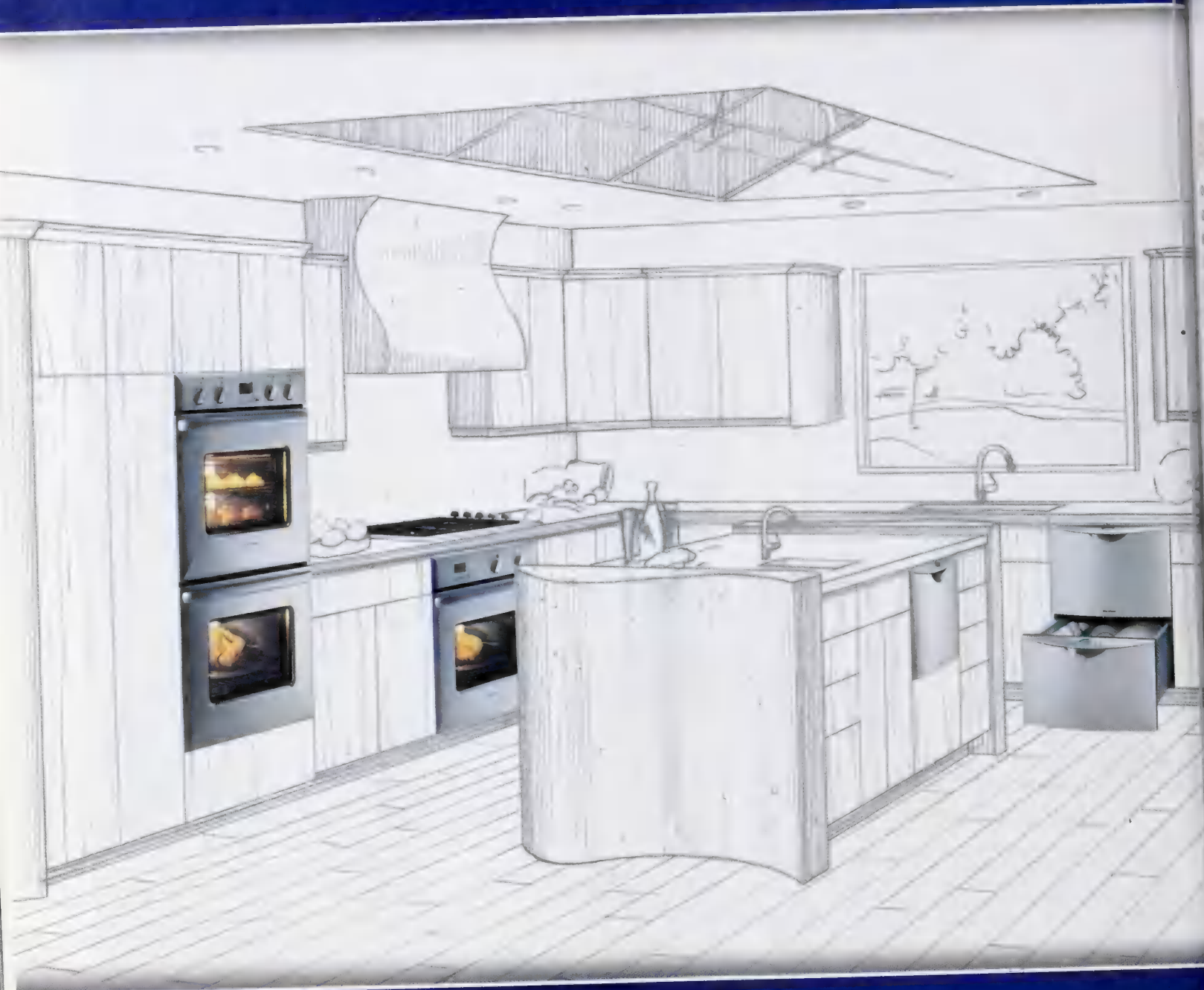
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Dates & Events

New & Upcoming Exhibitions

Design Berlin! New Projects for a Changing City
Berlin
May 2–June 22, 2003
The Vitra Design Museum exhibition introduces the most innovative young designers and architects in Berlin with this presentation of their most important projects, including furniture, product design, and architecture. The opening of the exhibition simultaneously marks the commencement of the new festival DESIGNMAI, offering the public an unprecedented and unique range of events pertaining to design topics, and the present exhibition *Take a Seat! 200 Years of Design History from the Collection of the Vitra Design Museum*. At the Vitra Design Museum Berlin. Call 49 30 47 37 77 12 or visit www.design-museum-berlin.de.

Traces of India: Changing Views of the Monuments of a Subcontinent
Montreal
May 15–September 14, 2003
The exhibition will present more than 200 master photographs taken by travelers, military surveyors, and professional studios within the context of the British colonial era, exploring some of the greatest architectural sites of the Indian subcontinent. Along with the 19th-century photographs of historic monuments, a fascinating related selection of images from popular culture, such as postcards, posters, political ephemera, and Bollywood film clips, will be on view. At the Canadian Centre for Architecture. Call 514/939-7000 or visit www.cca.qc.ca for further information.

The HOME House Project
Winston Salem, N.C.
May 10–July 6, 2003
The multiyear HOME House Project initiative, the future of affordable housing, begins with an exhibition of more than 450 proposals from artists and architects from the U.S., the Netherlands, Spain, England, Russia, Italy, and Canada. These sustainable designs for low- and moderate-income family houses are using Habitat for Humanities basic three- and four-bedroom house as a point of departure. A building phase, which starts in North Carolina, will follow the exhibition. At the Southeastern Center for Contemporary Art. Call 336/725-1904 or visit www.seca.org.

Starting Places/Architect's Study Models
Dallas
June 13–July 13, 2003
A show of 20 exploratory artifacts by Dallas-area architects will be on view. Operating along the borderline between imagination and reality, these miniature depictions will represent a spectrum of building types and express the pleasure and importance of making things while thinking. At the McKinney Avenue Contemporary (the MAC). Call 214/953-1212 for more information.

Treasures from the Collection
New York City
October 14, 2003–April 18, 2004
The Nancy and Edwin Marks Collection Gallery will introduce two installations each year featuring a wide range of objects from all historical periods and creating a visual encyclopedia of the collections. International in scope and possessing one of the most diverse and comprehensive collections of design works in existence, the museum's holdings range from the Han Dynasty to the present and total more than 250,000 objects. Cooper-Hewitt director Paul Warwick Thompson will curate the debut exhibition, encompassing diverse styles in a stimulating juxtaposition of objects across the four principal collecting departments of the museum: Prints, Drawings, and Graphic Design; Product Design and Decorative Arts; Wall Coverings; and Textiles. At Cooper-Hewitt, National Design Museum.Call 212/849-8400 or visit www.si.edu/ndm.

Solos: SmartWrap
New York City
August 5–October 10, 2003
The first exhibition in a new series features a



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pavilion by the Philadelphia architecture firm Kieran Timberlake Associates in the Arthur Ross Terrace and Garden. SmartWrap is a concept for a customizable building material that would incorporate a building's facade as well as emerging technologies in heating, lighting, and solar energy. The model, measuring 16 feet square by 20 feet high, will be sheathed in SmartWrap. Visitors will be able to walk through it and manipulate the functions embedded in the SmartWrap. At Cooper-Hewitt. Call 212/849-8400 or visit www.si.edu/ndm for more information.

Ongoing Exhibitions

Do It Yourself: Home Improvement in 20th-Century America
Washington, D.C.
October 19, 2002–August 10, 2003
This show is an examination of modern American housing and the products associated with contemporary dwellings and the cultural implications regarding gender roles and leisure time in the domestic sphere. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for further information.



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Big & Green: Toward Sustainable Architecture in the 21st Century
Washington, D.C.
January 17–June 22, 2003
Through in-depth profiles of approximately 50 contemporary green projects worldwide, along with a broad examination of global ecological and economic forces, this exhibition demonstrates the transformative powers of sustainable design. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

The Art of Structural Design: A Swiss Legacy
Princeton, N.J.
March 8–June 15, 2003
From New York City's George Washington Bridge to Boston's new Bunker Hill Bridge, some of this country's most acclaimed structures are the products if Swiss design. This exhibition celebrates the contributions of a group of highly influential Swiss engineers. At the Princeton University Art Museum. Call 609/258-3788 or visit www.princetonartmuseum.org.

Fantastic
North Adams, Mass.
March 8, 2003–Spring 2004
In *Fantastic*, MASS MoCA showcases contemporary artists—Miguel Calderon, Gregory Crewdson, Alicia Framis, Nils Norman, and the artist collective Temporary Services—all of whom embrace a world of hallucinatory, visionary, utopian, and otherwise "fantastic" ideas. At the Massachusetts Museum of Contemporary Art. Call 413/662-2111 or visit www.massmoca.org.

Picture This: Windows on the American Home
Washington, D.C.
March 29–August 11, 2003
Picture This presents windows through multiple perspectives and offers an entertaining two-century history of a building element that opens a view into the changing nature of American domestic life. Actual windows, advertisements, film and television clips, models, drawings, and photographs help to explore how windows shape our understanding of the world inside and outside of our dwellings. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Roy McMakin: A Door Meant as Adornment
Los Angeles
March 23–June 29, 2003
McMakin became a strong presence in the design scene in 1987, when he founded the Domestic Furniture Company in Los Angeles. The exhibition

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is a mid-career survey of the Seattle-based artist, tracing the development of his career in art and design and his unique manipulations of the traditional definitions of furniture and sculpture. At The Museum of Contemporary Art. Call 213/621-2766 or visit www.MOCA-LA.org.

Of Our Time: 2002 GSA Design Awards Show
Washington, D.C.
March 27–October 19, 2003
Through models, drawings, and photographs, this exhibition documents the 24 public projects that received the design award honor last year. The projects show how regional heritage can be integrated with the latest building technology to create dynamic, functional, and attractive structures, spaces, and artworks for the 21st century. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Living in Motion: Design and Architecture for Flexible Living
Barcelona
Through May 25, 2003
In this exhibition, architects and designers attempt to adapt homes and artifacts to the new demands of contemporary living. As part of the Year of Design 2003 at the Museum of Decorative Arts. For further information, visit www.designyear2003.org.

ROY/design series 1
San Francisco
April 19–August 24, 2003
An exhibition of groundbreaking design solutions by South African–born architect Lindy Roy will launch the first of an ongoing series devoted to showcasing the work of contemporary designers in architecture, graphic design, and industrial design. At the San Francisco Museum of Modern Art. Call 415/357-4000 or visit www.sfmoma.org.

Architecture and Design Permanent Collection
San Francisco
April 19, 2003–ongoing
This exhibition will inaugurate a newly installed ongoing presentation of the museum's architecture and design collection. Featuring some 100 works of architecture, graphic design, and industrial design from a permanent collection of more than 4,000 objects, the survey will include well-known classics and works by up-and-coming designers and will highlight special strengths of the collection, including experimental architecture and digital design. At the San Francisco Museum of Modern Art. Call 415/357-4000 or visit www.sfmoma.org for mor information.

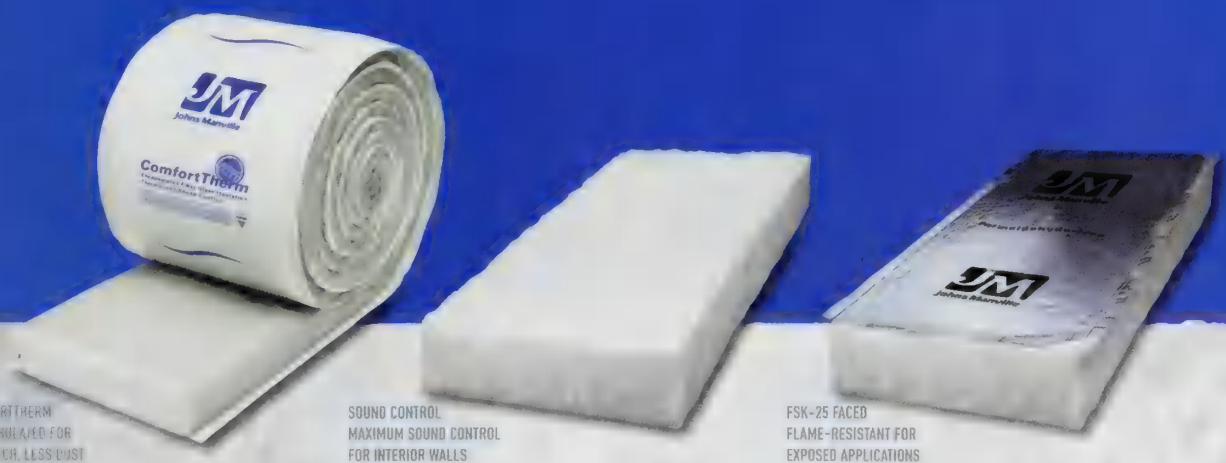
Designing the Rose
Boston
April 23–June 1, 2003
As part of the planning process for Shakespeare & Company's Rose Playhouse U.S.A. and celebrating Shakespeare's birthday, this exhibition will feature innovative designs for the world's first historically accurate replication of London's 1587 Rose Playhouse. Curated by architect George Marsh and the Boston architectural firm Payette Associates, the show, through photographs, illustrations, architectural drawings, and text, traces the history of the playhouse and the present-day plans to rebuild the theater using traditional building methods and materials. At the Boston Architectural Center. For more information, call 617/262-5000 or visit www.the-bac.edu.

Both/And: Building Modern in the Context of Historic Architecture
Seattle
May 2003



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The exhibition focuses on built and unbuilt projects that juxtapose modern architecture with historic design—architecture that is built in a decidedly modern manner but retains, refers to, and sheds light on adjacent historic buildings. Exhibition projects will be drawn from the Seattle area, along with select projects from other cities in the U.S., Europe, and Canada, including projects from Foster and Partners; Coop Himmelb(l)au; Dan Hanganu with Provencher Roy and Associates; Schwartz/Silver Architects; Kohn Pederson Fox Architects; and Saucier + Perrotte Architects. At the AIA Seattle Gallery. Call 206/448-4938 or visit www.aiaseattle.org.

Alessi 2003 Coffee and Tea Piazza: City of Towers
New York City
May 2003
This exhibition will feature the North American premiere of Alessi's new selections for the Coffee and Tea Piazza, designed by a stellar roster of contemporary architects. Promising to define contemporary and digitally driven architecture at the beginning of the 21st century, this new edition will feature coffee and tea sets by William Alsop, Wiel Arets, Juan Navarro Baldeveg, Shigeru Ban, Gary Chang, David Chipperfield, Denton/Corker/Marshall, Deszo Ekler, Massimilliano Fuksas, Zaha Hadid, Tom Kovac, Greg Lynn, Morphosis, MVRDV, Jean Nouvel, Dominique Perrault, Kazuyo Sejima, and UN Studio. At the Max Protetch Gallery. Call 212/633-6999 or visit www.maxprotetch.com.

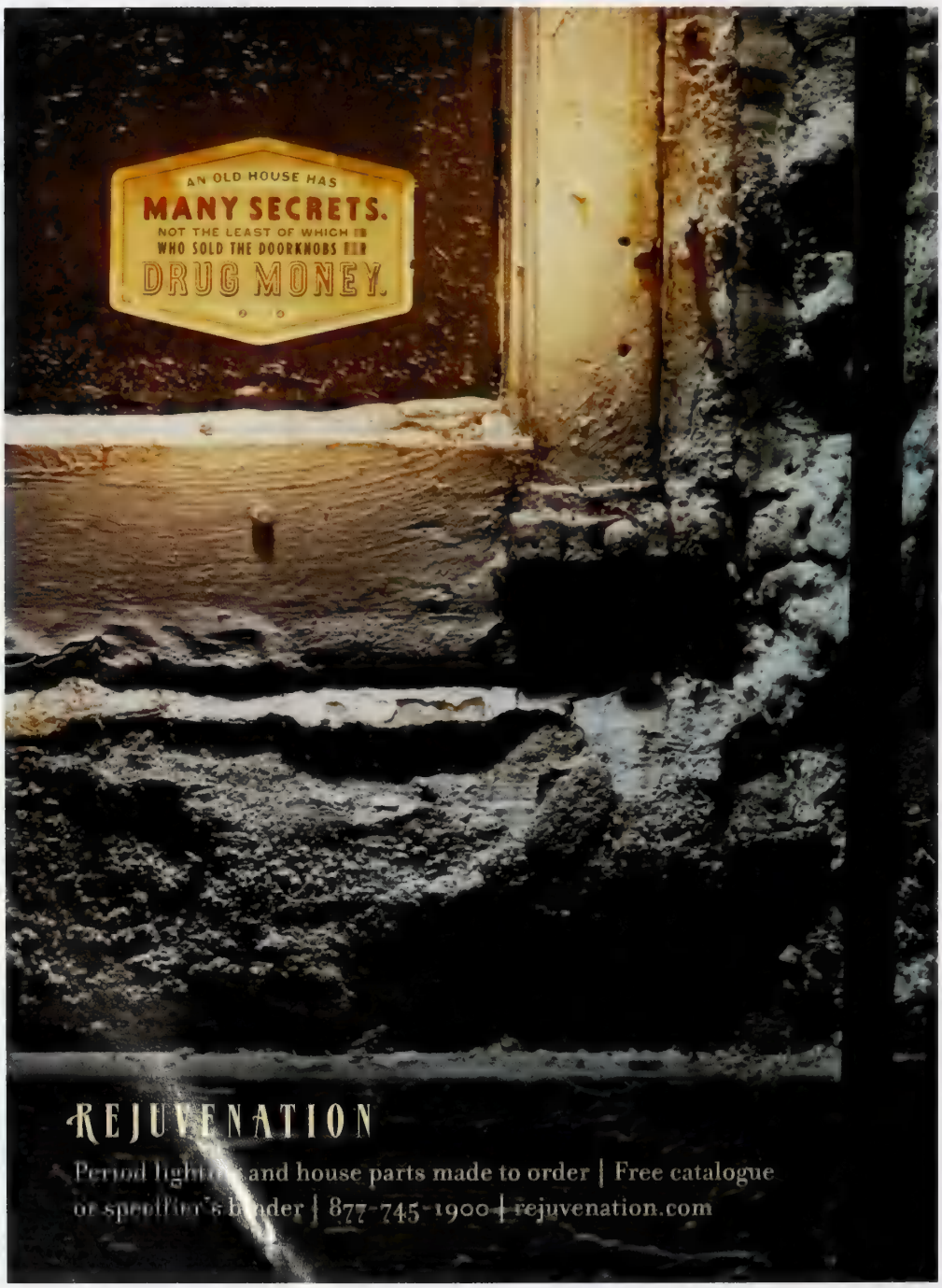
Other Architects
Barcelona
May 2003–May 2004
A part of the Year of Design 2003, this exhibition links the constructions built by animals with the architecture created by human beings. At the Zoology Museum, Natural Science Museum. Visit www.designyear2003.org.

Garofalo Architects: Between the Museum and the City
Chicago
May–October 2003
An architecturally distinctive, pavilionlike structure designed by architect Doug Garofalo will be the first in a series of MCA commissions for emerging and mid-career architects. At the Museum of Contemporary Art. Call 312/280-2660 or visit www.mcachicago.org.

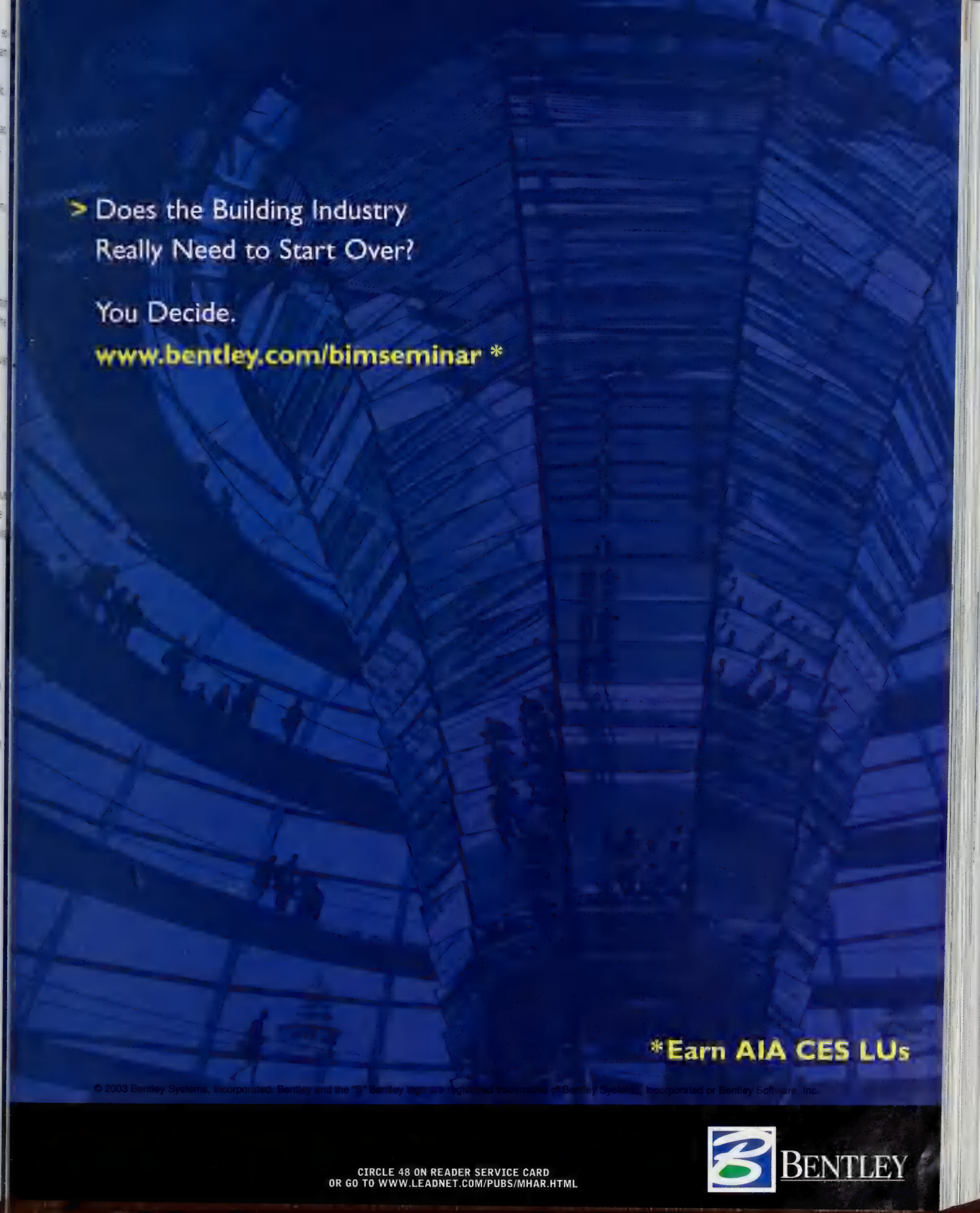
Harlem Lost and Found
New York City
May 3, 2003–January 4, 2004
This exhibition traces the history of Harlem from pre-Revolutionary times to World War I. Working with consulting curator Michael Henry Adams, author of the book *Harlem Lost and Found: An Architectural and Social History, 1765–1915*, the museum has drawn from its rich collections to add a unique dimension to the story of the neighborhood's architectural richness. At the Museum of the City of New York. Call 212/534-1672 or visit www.mcny.org.

Futures2come
Copenhagen
Through June 9, 2003
An exhibition curated by Christian Bruun that started at the Max Protetch Gallery in New York City in December 1999 and has continued on to Europe. At the Dansk Architecture Center. For more information, call 32 57 19 30 or visit www.gammeldok.dk.

Luxury Textiles East and West
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LACMA's Department of Costume and Textiles, this exhibition highlights extraordinary examples of the textile arts of America, Asia, and Europe from the department's extensive holdings. At the Los Angeles County Museum of Art. Call 323/857-6000 or visit www.lacma.org for more information.

Pere Noguera: Lands
Barcelona
Through August 31, 2003
A poetic reflection on the design of elements of earth used in architecture, in the home, for domestic utensils, for furniture, decoration, the garden, and everything that surrounds us. At the Ceramics Museum, as part of the Year of Design 2003. Visit www.designyear2003.org for further information.

Conferences, Symposia, Lectures

Lightfair International
New York City
May 5–8, 2003
This year's Lightfair promises to be the biggest and most comprehensive annual architectural and commercial lighting conference to date, with more than 550 exhibiting companies occupying more than 1,460 booths, and an expected attendance exceeding 19,000 architectural, engineering, design, and end-user professionals from around the world. At the Javits Convention Center. For more information, call 404/220-2215 or visit www.lightfair.com.

Public Architects Training Workshop
San Diego
May 7, 2003
A preconvention workshop presented by the AIA Public Architects PIA that will cover such topics as sustainable design, building security, the design-build process, child-care-facility requirements, community involvement, how to win and establish design awards, real estate, innovation, and public schools. At the San Diego Convention Center. For more information, call 202/626-7386 or visit www.aia.org.

The Modern Movement in Cuban Architecture
Washington, D.C.
May 12, 2003
Havana architect and editor in chief of *Arquitectura Cuba*, Eduardo Luis Rodriguez will discuss the rich cultural legacy of Cuba and how architects of the Modern movement sought to define an identity for the Caribbean nation. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Sir Nicholas Grimshaw
Washington, D.C.
May 13, 2003
Voted the best building of the past 50 years in an Architect's Journal survey, the Eden Project in Cornwall, U.K., is a showcase for protecting biodiversity. Grimshaw, the project's architect, will speak on his firm's commitment to design excellence based on innovation and a rigorous approach to detailing. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for information.

The Chrysler Building
Washington, D.C.
May 14, 2003
Nationally recognized designer David Stravitz will present rare images documenting the construction of one of New York City's greatest icons. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.









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Dates & Events

Ambient Intelligence: Solid State Technologies in Architecture
Washington, D.C.
May 14, 2003
New technologies allow building skins to be more than just membranes to keep out the weather. It is possible to incorporate the infrastructure of light and information into cladding materials, creating "smart" facades. Sheila Kennedy, AIA, of Kennedy & Violich Architecture, will present recent projects that explore the integration of sophisticated electronic systems and challenge the material conventions in architecture. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

National Design Triennial Conference
New York City
May 16, 2003
This cross-disciplinary conference will explore the major forces shaping design today through keynote addresses and multimedia presentations from curators and designers of products, interiors, architecture, furniture, graphics, film, and fashion. The program focuses on work by studios featured in the National Design Triennial, including BluDot, Diamond + Baratta, Escher + GuneWardena, Fuseproject, Champion Graphics, and Toledo/Toledo. In the Great Hall at Cooper Union. Call 212/849-8380 or visit www.si.edu/ndm.

Ralph Johnson, FAIA
Washington, D.C.
May 19, 2003
Perkins & Will received the American Institute of Architects' Firm of the Year Award in 1999. Architect Ralph Johnson, FAIA, principal in the Chicago-based firm, will discuss the firm's work, including the O'Hare International Terminal in Chicago, the Nature Museum for the Chicago Academy of Sciences, and his commission for a new "green" federal courthouse in Los Angeles. At the National Building Museum. For more information, call 202/272-2448 or visit www.nbm.org.

Tour Abitare Italia
New York City
May 19, 2003
Showcasing the best of Italian home design and celebrating some of New York's emerging fashion designers, the fifth annual Tour Abitare Italia features showroom receptions, exhibitions, and conferences. Call 212/353-1383 or visit www.abitareitalia.com.

SIDIM
Montreal
May 22–24, 2003
The Montreal International Interior Design Show (SIDIM) will celebrate its 15th anniversary. More than 300 international manufacturers, importers, and designers will present their furniture and designs for office, commercial, and residential space-planning applications. At Place Bonaventure. Call 514/284-3636 or visit www.sidim.com/.

Planning for Growth in Rural Areas
Washington, D.C.
May 27, 2003
Smart growth has a role to play in rural as well as urban areas, but models of rural smart growth have not been widely publicized. Keith Schneider of the Michigan Land Use Institute will discuss how some rural communities can benefit by emphasizing their best asset, rural character. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Breakthrough Projects: The Marriage of Economics and Innovation
Washington, D.C.
May 27, 2003
Sandra Mendler, AIA, sustainable design principal for Hellmuth, Obata + Kassabaum, will trace the path of a series of "breakthrough projects" that are realigning expectations about the cost and value of green buildings. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for more information.

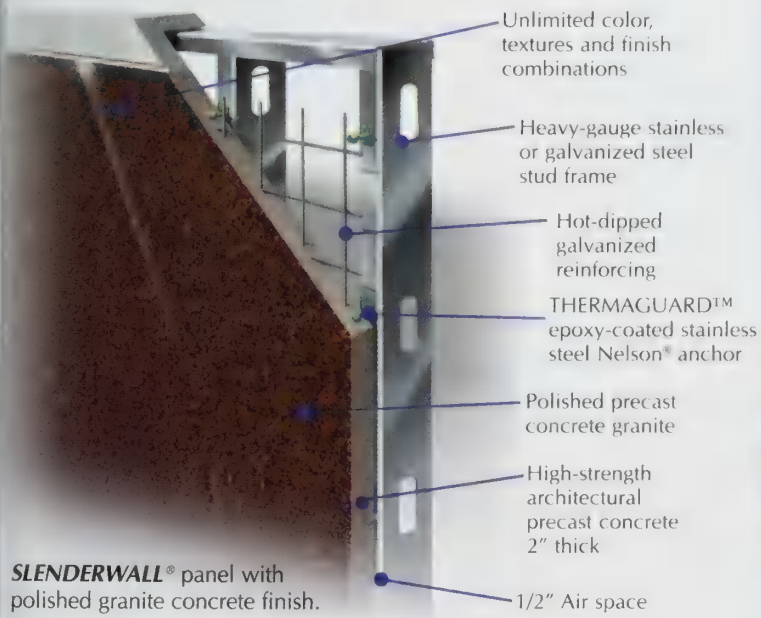
Creating Healthy Communities
Washington, D.C.
May 28, 2003
Healthy communities require more attractive physical structures. Vibrant, sustainable communities are those in which people take pride not only in their homes, but in their neighborhoods, as well. W. Christopher Smith, Jr., chairman and C.E.O. of William C. Smith & Company, will describe how one developer became a change agent for a once-challenged, now emerging neighborhood in Southeast Washington. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

37th International Making Cities Livable Conference
Siena, Italy
June 15–19, 2003
Call for papers deadline: April 15

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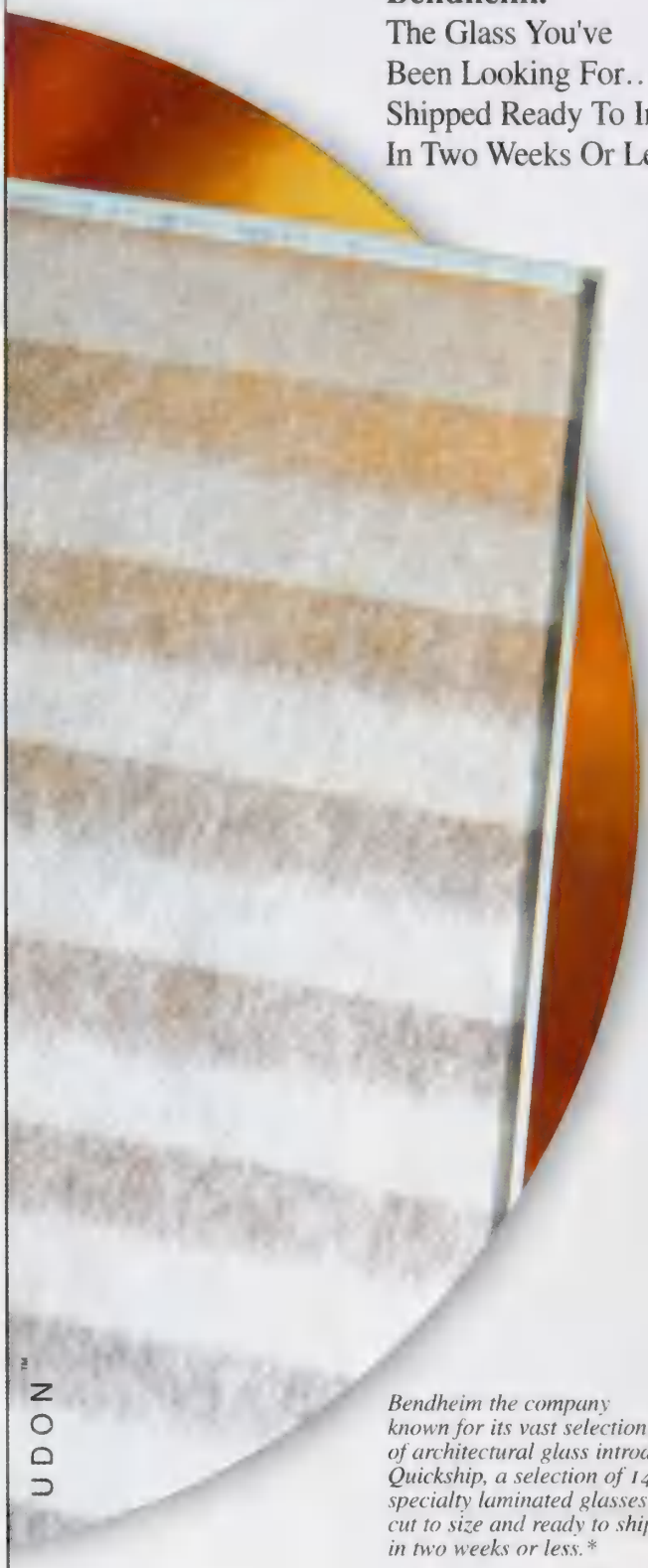
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Dates & Events

An international conference for architects, urban designers, landscape architects, city officials, planners, historic preservationists, and social scientists, where practitioners and academics from around the world share ideas and establish working relationships. For more information, call 831/626-9080 or visit www.livablecities.org.

Density Conference
Boston
September 12–14, 2003
Density can play a key role in reviving urban centers, containing sprawl, and creating a sense of place in older suburban environments. Join designers, planners, journalists, and others from across North America in examining this controversial topic and exploring design for density in settings that range from large and small cities to older suburbs. Call 202/626-7557 or visit www.aia.org.

The 2nd Beijing International Green Building Materials Exhibition
Beijing
September 17–20, 2003
With Beijing's 2008 Olympic Games construction and a bid for the 2010 World Expo, the city's 2nd Beijing International Green Building Materials Exhibition will be held with the theme of green production, green products, and green consumption, and the mission of promoting the application of green building materials in the construction of engineering projects. At the China International Exhibition Center. Call 86 10 8808 2303 or visit www.gbm.com.cn.

The International Concrete Repair Institute 2003 Fall Convention
Tampa, Fla.
October 23–24, 2003
The convention theme is high-rise repair and will consist of a full slate of technical presentations covering all aspects of high-rise restoration and repair. In addition to the technical presentations, the convention will host technical and administrative committee meetings, exhibits, networking luncheons, and live demonstrations. At the Marriott Tampa Waterside Hotel. Call 847/827-0830 or visit www.icri.org.

Competitions and Awards

Designing the High Line
New York City
Registration deadline: April 25, 2003
Late registration deadline: May 16, 2003
Designing the High Line is the first-ever international ideas competition seeking visionary design proposals for the reuse of the High Line elevated rail structure on the west side of Manhattan. Sponsored by Friends of the High Line, the open ideas competition will culminate in a large-scale exhibition in Grand Central Terminal's Vanderbilt Hall in July 2003. For information, call 212/631-9188 or visit www.thehighline.org.

The American Society of Landscape Architects 2003 Awards Program
Washington, D.C.
Deadline for submission of materials: May 16, 2003
The Call for Entries features four categories of professional awards, including Design, Analysis and Planning, Research, and Communications. Any individual, firm, agency, or academic institution is eligible to enter as long as the project's participants include a landscape architect or a graduate or faculty member of a landscape architecture program. Anyone may submit entries in the Research and Communication categories. Visit www.asla.org for more information.

The 2003 Dinkeloo Fellowship at the American Academy in Rome



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Dates & Events

New York City
Submission deadline: June 16, 2003
This year's Dinkeloo Fellow will have the opportunity to participate in the Van Alen Institute's 2003–2004 program for new design directions for public space. Through research and intense exploration, a focused travel experience, and a residency period at the American Academy in Rome, this year's fellow will be asked to investigate, report, and document a project of his or her choice. For more information, call 212/924-7000 or visit www.vanalan.org.

The National Sunroom Association 2003 Design Awards Contest
Topeka, Kansas
Deadline: June 30, 2003
The Design Awards Contest recognizes and rewards exceptional sunroom design that enhances the beauty of a home or commercial building while considering the energy efficiencies of the sunroom. All sunrooms, patio rooms, and solariums constructed in the U.S. or Canada and completed during the 2002 calendar year are eligible for the NSA 2003 Design Awards. For information, call 785/271-0208 or visit www.nationalsunroom.org.

12th Ermanno Piano Scholarship
Paris
Submission deadline: June 30, 2003
The Ermanno Piano Scholarship has been created for newly graduated architects to give them the opportunity to improve their education through a six-month internship with the Renzo Piano Building Workshop. For further information, call 01 44 61 49 00 or visit www.rpbw.com.

The 2003 International Student Design Competition for an Ecohouse
Deadline: July 1, 2003
The challenge is to design an Ecohouse for your own hometown. The two key aims are to make it comfortable, with areas of real "thermal delight," and to make it a real 21st-century building, safe from climate change, able to survive without relying on a great deal of fossil fuels. The competition is open to a student or group of students in a school of architecture anywhere in the world. For more information, visit www.ArchitecturalPress.com.

International Achievement Awards
Deadline for entries: July 1, 2003
Sponsored by the Industrial Fabrics Association International (IFAI), this competition offers architects an opportunity to gain recognition for projects that have creatively used fabric. Project entries include photos of outstanding specialty fabric projects and descriptions of their unique and important characteristics. To request a brochure and entry form, contact Christine Malmgren at 800/225-4324 or 651/222-2508, e-mail cmmalmgren@ifai.com, or visit www.ifai.com.

Precast Castle Design Competition
Great Britain and Ireland
Submission deadline: October 31, 2003
The Mid-Atlantic Precast Association (MAPA) announces a contest to design a structurally sound precast castle, open to professional architects or engineers and architecture/engineer students. Visit www.mapaprecast.org to register.

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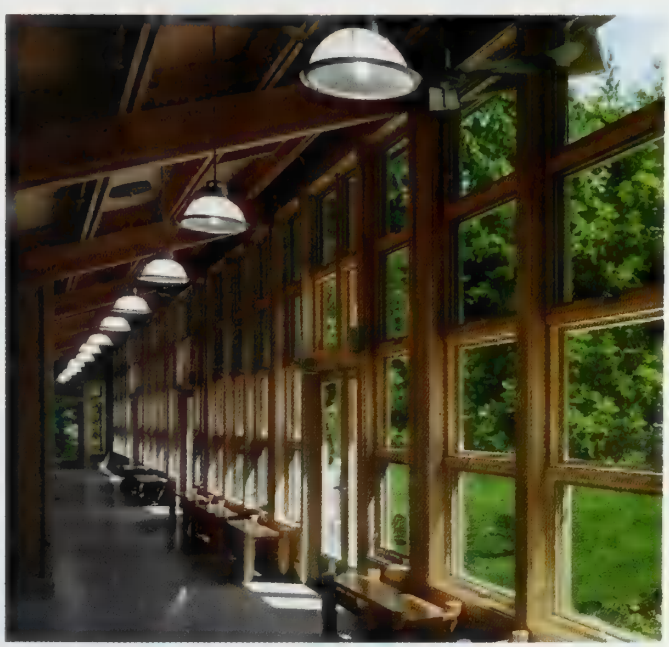
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San Diego is transformed by diverse, challenging civic projects

Correspondent's File

By Ann Jarmusch

When architects gather in San Diego for the American Institute of Architects (AIA) annual convention this month, they will be greeted by a city under construction. Outrunning pessimistic economic forecasts, downtown San Diego is being transformed into a livable neighborhood with remarkable speed and diversity.

Across Harbor Drive from the recently expanded convention center, home to the AIA convention, the Padres' baseball stadium, designed by Antoine Predock, FAIA, with HOK Sport, is taking shape. Will Petco Park be an elephant in downtown's new living room or a regional hit? The answer will come when it opens in April 2004.

Around the ballpark, hotel towers with sweeping bay views are rising, a site is being prepared for a long-overdue new main library, and museums are planning expansions. A dizzying number of new or nearly completed apartment, live-work loft, and condominium projects are helping to combat a housing shortage and suburban sprawl.

Rob Wellington Quigley, FAIA, who earlier made his mark here with influential low-income housing, is now at work on two major public commissions: the main library, a joint venture with Tucker Sadler Noble Castro Architects, also of San Diego; and a new children's museum and park, designed with Martin Poirier of Spurlock Poirier Landscape Architecture of San Diego.

Ann Jarmusch is the architecture critic for The San Diego Union-Tribune.

The $149.5 million library will be built east of the ballpark along a new diagonal boulevard that will connect two natural assets: Balboa Park and San Diego Bay. Capped by a monumental lattice dome to echo Balboa Park's historic domed buildings and botanical lathe house, the nine-story, precast-concrete library will replace a 48-year-old cramped, outdated facility.

Irregularities in the city-run library project forced Quigley to redesign the building for three different sites beginning in 1996, when his firm was selected from a large international field. With ground breaking to occur sometime in 2004, the library is expected to open in May 2007.

Now designed for the largest of the three proposed sites, the 367,000-square-foot library will include two floors for future expansion and interim leasing, a reading garden with café, and a 350-seat auditorium.

Quigley's concept includes the top two floors devoted to a large public reading room, and terraces and rooms for special collections and events, all shaded by the lattice wood or 144-foot-diameter metal dome that Quigley compares to a straw hat. Quigley asks, "Where else but in a civic building could everyone have free access to the best views?"

Quigley's design to replace the temporarily closed Children's Museum/Museo de los Niños and a new food co-op in the Ocean Beach neighborhood are efforts to bring green architecture into San Diego's mainstream.

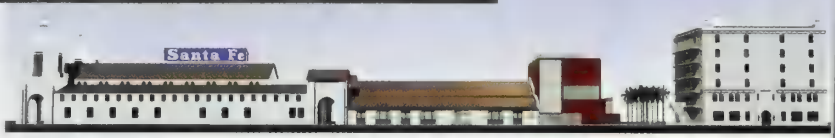
The concrete-and-glass museum, for a prominent downtown site along a trolley line, will feature solar roof panels, a cooling chimney, and exposed seismic bracing. One of the first large, green projects proposed for downtown, its energy-efficient components will serve as teaching tools for kids and an example to other builders.

Just north of Broadway, architects Richard Gluckman, FAIA, of Gluckman Mayner Architects, New York City, and Milford Wayne Donaldson, FAIA, of San Diego, teamed up on a two-part expansion plan for the Museum of Contemporary Art San Diego (above). By renovating a historic building on Kettner Boulevard and adding a three-story wing, the museum will double the exhibition space it now has at the main museum in La Jolla and a downtown satellite.

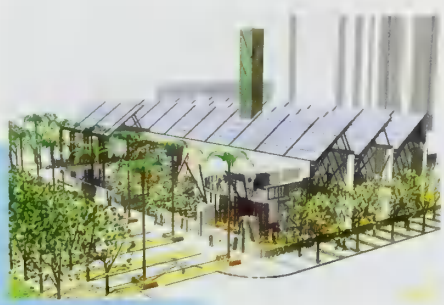
The proposed renovation of the cavernous Mission Revival–style



A modern box in red steel will be added to the Santa Fe Depot for the new Museum of Contemporary Art San Diego, by New York's Gluckman Mayner Architects.







Rob Wellington Quigley, FAIA, has two major San Diego projects: the new main library (left) and a children's museum (above).



The Ocean Beach Organic Food Market by Architects hanna gabriel wells.

baggage building with exposed steel trusses, huge rolling doors, high ceilings, and clerestory faced mild opposition. It is attached to the Santa Fe Depot—both 1915 buildings by Bakewell and Brown and listed on the National Register of Historic Places—and will be used for exhibitions and events. What did spark sharp public criticism was the Modernist box to adjoin this pair of Mission-style icons. The 15,950-square-foot, strictly rectilinear wing of channel glass, corrugated metal panels, and board-formed concrete was initially viewed as incongruous with the two original buildings.

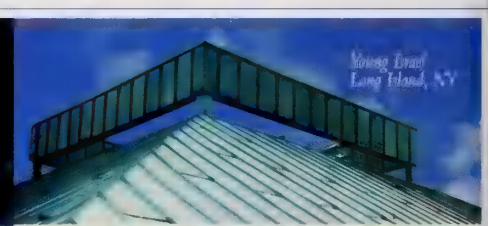
Gluckman and Donaldson chose the materials, proportions, and structural system for the new building in response to the historic neighbors, then strengthened the relationship during the review process. They recessed windows to emulate the baggage building's inset arched windows and doorways, and selected red-oxide paint for the corrugated metal panels to recall freight cars and complement the 1915 red-tile roofs. Inspired by the baggage building's innovative lightweight steel structural system concealed behind thick, faux-adobe walls, the architects designed the semitransparent new building to reveal its curtain-wall system.

In March, on the second try, the museum design was approved unanimously by the city council. The new building opens in spring 2005.

The Ocean Beach Organic Food Market by Architects hanna gabriel wells of San Diego, grew out of the environmental activism long present in this casual beach neighborhood and its venerable food co-op. The new airy pavilion with a central shopping area and services around the perimeter, including a small deli counter and café with a balcony on the second level, resembles a soaring market hall. Energy costs will be reduced by nearly $24,000 annually with natural ventilation through operable windows and skylights, controlled daylighting, dual-pane low-e2 glazing, and solar hot-water heating, according to James Gabriel, principal in charge. Photovoltaic cells will be placed on the roof. Building materials include recycled-content structural steel; FSC-certified lumber; sealers, paints, and adhesives with low- or no-VOC content; and quarry tile, linoleum, and bamboo flooring.

The innovations in flexible, multifamily housing that have brought national attention to San Diego architects such as Quigley, Smith and Others, and Jonathan Segal is evident in a full city block in downtown's Little Italy. Most of this perimeter housing and mixed-use block, developed by Little Italy Neighborhood Developers (LIND), and designed by seven architects along with Martin Poirier, the landscape architect for the Children's Museum park, has been occupied for several years. With the completion of the final building, the group has at last realized its vision of cre-

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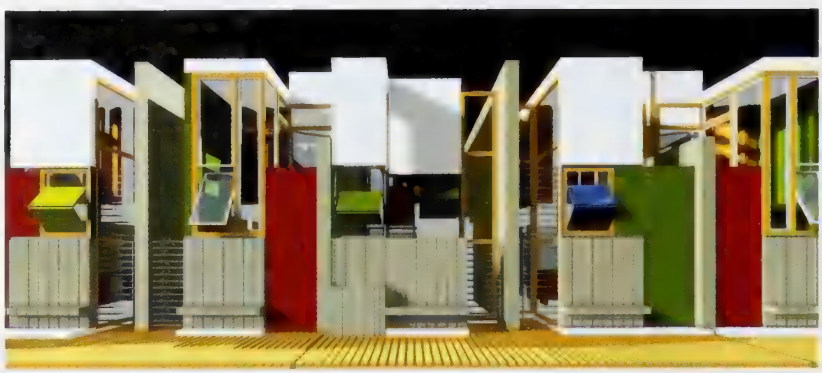
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ating a dynamic block that appears to have evolved naturally over time.

The newest building on the block, a four-story structure designed by Kathleen McCormick, a principal at Smith and Others, houses a jewelry store at street level, lofts, and on the top floor, a private residence with terraces facing east (mountain and city views) and west (to San Diego Bay). Like another Smith and Others building, The Merrimac, on the LIND block, McCormick's is built primarily of masonry. Its demure, symmetrical street facade belies the surprising exuberance of the rear wall facing a courtyard. The rear wall is painted in an enormous black-and-white checkerboard pattern (photo, right), which McCormick likens to an exclamation mark that punctuates the block's varied, but compatible, architectural expressions.



Housing Corridors on Imperial Avenue by estudio teddy cruz challenges zoning laws.

In another urban experiment, estudio teddy cruz has designed Housing Corridors on Imperial Avenue, a project that challenges traditional zoning and land-use ideas. Dense housing, small businesses, and semipublic open space will be interlocked on parcels that incorporate underused land, such as driveways, setbacks, and alleys.

Housing Corridors takes its name from the pattern of narrow streets in its low-income neighborhood east of downtown. Small businesses, with housing above, flourish in and along these streets and alleys. The new housing will be built on five or six narrow parcels perpendicular to Imperial Avenue—a busy commercial street—and surrounded by alleys.

Noting that this mix of uses is not legal to zone in San Diego but is socially successful, the architects want to appropriate and legitimize the concept. They plan to build 51 apartments or live/work units laced with landscaped passages in the first phase, plus 9,000 square feet of small retail or entrepreneurial space facing Imperial Avenue. The housing and retail spaces are layered in vertical bays that can be expanded from a studio up to a three-bedroom apartment or reconfigured for live/work or retail uses. These double-height bays allow for balconies and a roof garden for each unit.



Housing by Smith and Others, at le

With developable land dwindling and the population growing in San Diego, the concepts driving Housing Corridors and the LIND block stem from much-needed innovation. ■

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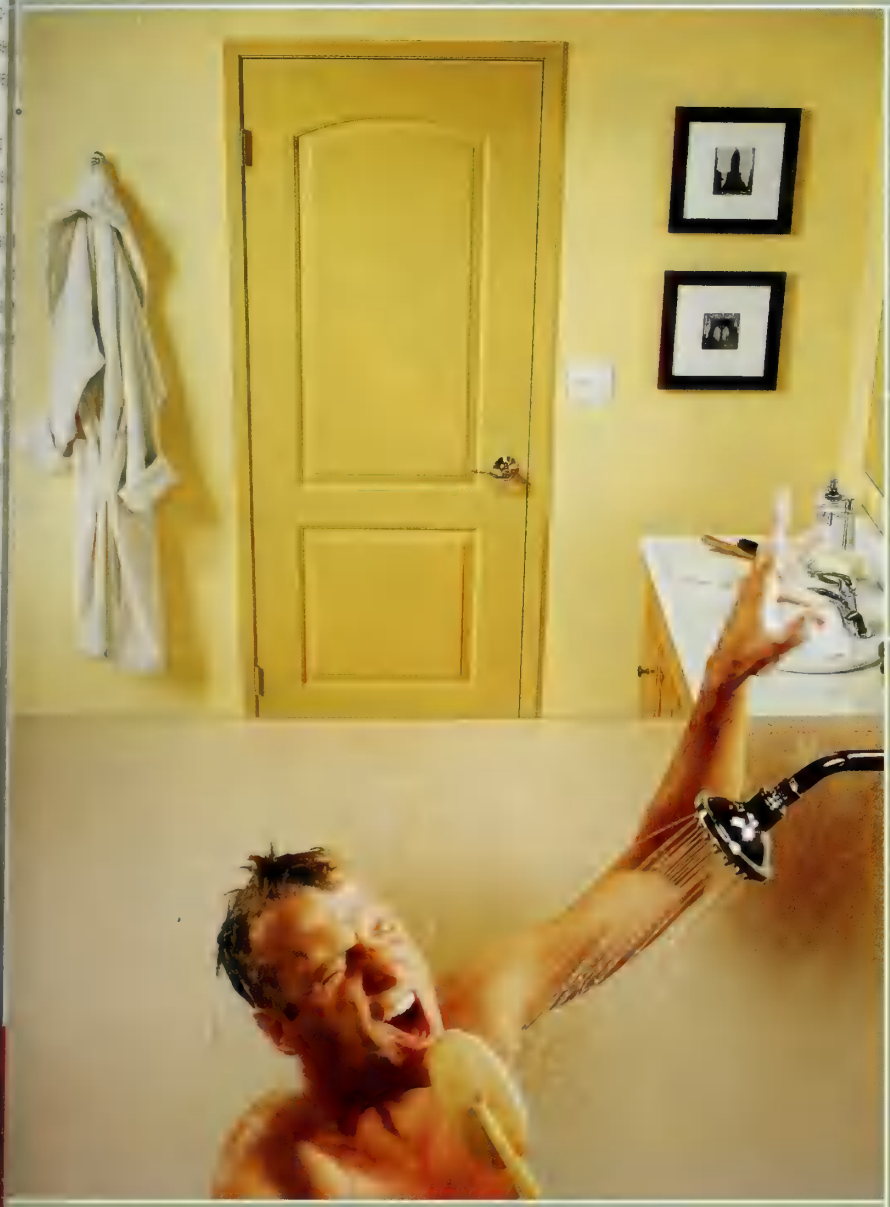
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FOR THE EMERGING ARCHITECT

his month, **archrecord2** looks beyond the shores of North America to find emerging architects broad. In **Design**, you will find two architects, one Canadian by birth, the other Norwegian, who ave quickly built up a large portfolio for their young office in Bergen, Norway. And in **Work**, we ake a look at young Americans who have advice on finding an architecture job overseas. On the Veb, as always, you will find additions to these stories, plus our forum, **Talk**.

DESIGN

Looking for a new way, in Norway

For a firm that is only a little more than a year old, Saunders & Wilhelmsen has achieved an astonishing amount of work, both built and on the boards. They accomplished this feat by building without clients, and yet the clients have begun to sign on. The two partners, Todd Saunders, 33, and Tommie Wilhelmsen, 29, took an economic risk in buying land and building their first building, but it has been a risk that paid off.

"In this way," Saunders says, "we could pursue our architectural vision in line with our conviction. No compromises. Once we made such a project, we knew that it would be easier to find and convince clients that we were competent architects through this use of a real-life building, as opposed to paper visions of architecture."

The partners live and work in Bergen, Norway's second-largest city. Wilhelmsen is Norwegian, but Saunders emigrated from Canada, where he lived until 1996. He was in Bergen as part of a research project on northern European ecological villages.

"I spent three hours one sunny June day in Bergen drinking a beer and eating shrimp," Saunders says, "and decided that it is the ultimate urban village for a nature freak."

In 1998, Tommie Wilhelmsen returned to Norway from Stuttgart, Germany, where he had been working with Behnisch, Behnisch & Partner. He and Saunders were both becoming known around Bergen, and the director of the Bergen Architecture School paired the two up to teach a six-week course. As they taught, they discovered similarities in their working styles and career aspirations. Then they developed their plan to build.

This building, a cabin on the edge of a fjord, includes a room for eating and sleeping, and a second, smaller room for any other purpose. An outdoor floor connects the two rooms. As of this writing, the partners are still working on the retreat, but they have used the same indoor/outdoor scheme for two summer cabins for specific clients. Working with a group of students, they completed the first of these commissions last summer and plan to build the second in the coming summer.





Summerhouse, Aaland, Finland, 2002
The two halves of this vacation house open up toward each other to form an outdoor room between them. Stairs at one end lead to a roof garden. The house is insulated with linseed flowers, and the wood is treated with linseed oil.





Lookout design competition, Aurland, Norway, 2005
Saunders & Wilhelmsen was the youngest of three firms invited to design a lookout over a fjord. They took a Minimalist approach to the site, separating the structure from its parking lot and not disturbing any of the existing pines.

(continued from previous page) When Saunders and Wilhelmsen get a project—and in their first 14 months, they have managed to start work on 20 projects—they sit down at a table and sketch out ideas together.

"This process is full of conversation, laughter, and feels like a game children would play," Saunders says. "We try to have fun with what we do."

The two do, however, have a strong sense of social responsibility. Several of their projects have focused on creating new forms of affordable student housing, which is particularly difficult to find in Bergen. Their work has not been hampered by a strong preservation movement that tries to keep contemporary architecture out of the tourist-friendly city center. They are working with a group of political activists to design three temporary structures that the activists will inhabit for three months. As well as acting as a protest against the high cost of student housing, the houses will try to demonstrate new possibilities for urban living.

Saunders and Wilhelmsen are young and admittedly idealistic, but they are getting work done: urban lofts, single-family houses, a competition to design a scenic lookout over a fjord. Their idealism turns out to be practical.

"We ask ourselves all the time, 'What is the value of the projects we make as architects?' " Saunders says. "We always come back to focusing on striving to create architecture with depth." He adds: "We do not want to be architects who just see our projects from a distance. We try to actively participate in making changes to the city in which we work." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for more projects from Saunders & Wilhelmsen, and for stories on other emerging architects.



Cabin, Sognefjorden, Norway, 2003
This cabin, like the Aaland summerhouse, incorporates nature into its design, creating an extra, outdoor room. Situated at the edge of a forest on top of a rocky slope, the cabin looks out over the water of an adjacent fjord.



Student housing proposal, 2003
Saunders & Wilhelmsen believe that student housing in Norway should be made more affordable yet still be attractive. Most of their projects are intended for newspaper publication—so that the ideas stimulate debate—and not necessarily for construction.



Møhlenpris student housing, Bergen, Norway, 2003
The architects used a dilapidated four-story building as the basis for a new student housing collective. A two-story addition would house sleeping areas, a kitchen, and a common room. The rooms would be rented at the same rate as other student housing in the city.



Protest house, Bergen, Norway, 2003
Working for free, in a protest against student housing prices, the architects designed three temporary housing units that will be placed in the center of Bergen. At the same time, the houses will serve as an exhibition of urban housing design ideas.

Most people don't see the forest for the trees when it comes to new construction. Indeed, everyone is so focused on finishing their own part that responsibility for the performance of the whole system gets lost. That's exactly why we developed knowledge-based integration. It's an approach designed to add value and reduce costs throughout the life of a building. And it places all that responsibility squarely on the only shoulders strong enough to handle it. Our own.



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WORK

Finding architecture jobs overseas

Young architects seeking work abroad are doing so for more than just the lure of ancient streets and an attraction to different cultures. For those just out of graduate school, it's a shot at being a part of an exciting project before age 40. There's also a growing sense of disillusionment with the range of prospects available in America: fewer competitions, fewer chances to make a name with a project. But those who have managed to find work or internships abroad know that getting there—and staying—takes more than a solid portfolio.

Those who have found international opportunities offer mixed advice about how to repeat their success. Lisa Tilney, who interned for six months with Barkow Leibinger in Berlin, says you need "a good portfolio and a dose of luck." A professor who knew the firm's principals helped, too, with a recommendation.

Brandon Cook, a graduate of Columbia University, spent two years in Rotterdam working for OMA. "I went to the Netherlands, where I had two or three contacts who were friends," he says. "One knew that OMA needed people at that time. It worked because I was very much willing to get my hands dirty."

For many, the early stages of finding work abroad begin before the first day of classes. Picking a school with a diverse faculty and roster of visiting critics and lecturers is key. Students shouldn't be lax about engaging visitors, either: When international lecturers visit, students are "ready to pounce," one educator explained.

"They gravitate toward the type of school where international architects gather," says Peggy Deamer, an associate dean at Yale University's School of Architecture. "There's a sense that the interesting players on the architecture scene may not be exclusively American. It goes way beyond America at this point."

"Working abroad is part of your need for architectural education," Cook says. "As you're trying to develop your toolbox, you want new tools to use: a different country, different type of office building. Going there is your chance to see history."

For recent graduates, it's also a chance to take part in a diverse range of projects. "I think that there is a perception, in Europe at least, that young architects are given the opportunity to do more interesting things earlier in their career," says Deamer. "It's a more positive model of how you can do interesting work early in your career. In America, it's a really long time before you do a project of institutional value." *Jason Clampet*

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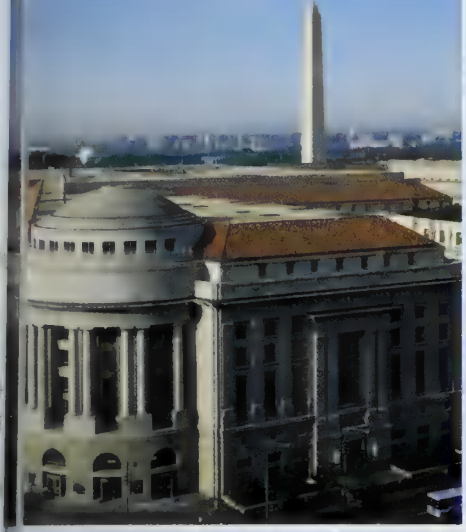
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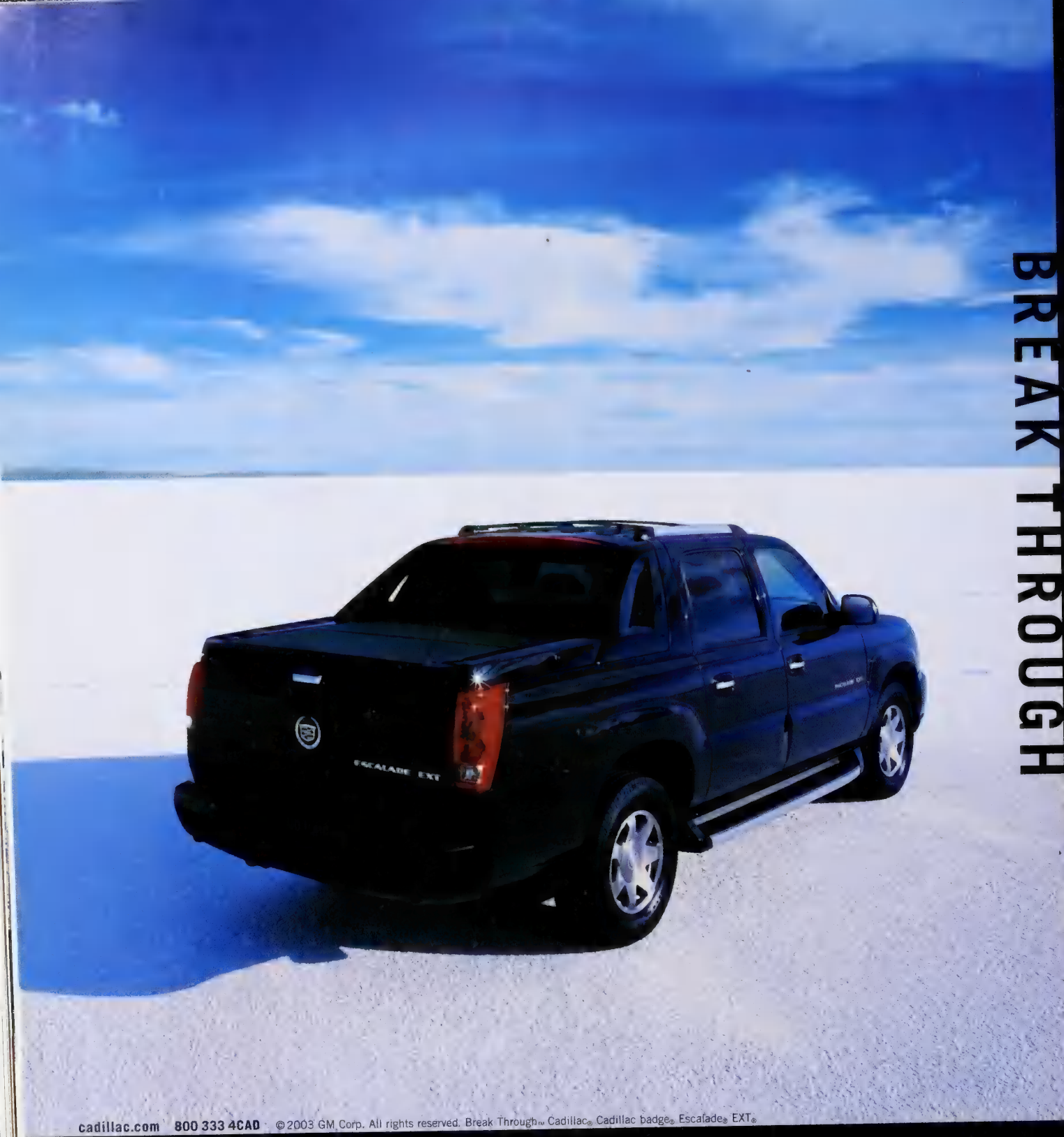
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Starting a new firm: Practical advice for the adventurous

Practice Matters

By Peter Piven, FAIA

Almost every architect has, at one time or another, contemplated starting a firm. There are an almost unlimited number of reasons why one might do so. But why would anyone start a new practice when the economy is bad? With the marketplace more competitive than usual, it would seem that a new firm wouldn't stand a chance.

Contrary to this conventional wisdom, many people start firms during periods of economic recession. Charles Dickens's *A Tale of Two Cities* famously begins, "It was the best of times; it was the worst of times." In a way, recessions are like that. They often create conditions that allow new practices to emerge out of circumstances that at the outset seem more like crises than opportunities.

Layoffs are one reason that people strike out on their own. Because labor costs are approximately 40 percent of an established firm's net revenues, it's almost a sure thing that individuals who are quite capable of starting their own firms will lose their jobs when income declines and there is no relief in sight. Although cutting those at or near the top of the salary schedule may not be the smartest decision, in the short term it provides the greatest economic benefit. Sometimes good people leave because they already see the writing on the wall.

Much of this article is based on Architect's Essentials of Starting a Design Firm, *by Bradford Perkins, FAIA, and Peter Piven, FAIA, published this month by John Wiley & Sons.*

At that point, these "liberated" individuals are left to contemplate their futures. Inevitably, some will become masters of their own destiny and leap into the great void called independent practice.

As Massachusetts architect Earl Flansburgh wrote in RECORD some 20 years ago, "There is no good time to start a new firm, only better times." He was right. Although it may be easier to start a firm in a booming economy, recessions often bring new firms great opportunities. Clients who may be reeling from the same economic pinch that's affecting our profession frequently welcome the arrival of new firms with lower cost structures. Clients often find young professionals' personal service and eagerness to please very appealing. On the other hand, larger firms that have been unwilling to take on small projects when they are busy may find they are unable to compete effectively for such projects when they need them just to keep their overhead covered.

What it takes

Houston architect S.I. Morris was being too modest when he said, "It's not very difficult to do well in this business. All you have to do is get work and execute it successfully." Of course, it's not that easy. So, what fundamental attributes should a firm's founders have? They must be leaders—that is, capable of creating and communicating a clear vision for the future—and they should be able to motivate others to help them achieve it. A firm's leaders should be able to articulate how their new firm intends to distinguish itself in the marketplace; for example, by using a unique design philosophy or technical superiority, or by pledging to give clients extraordinary service.

From a practical perspective, owners must be able to manage people, which is different than being good leaders. Managers assign tasks, make work plans, supervise, mentor, and develop talent. They need marketing and selling skills to keep the firm busy. Finally, owners must have money-management skills and provide enough capital to finance the firm's start-up and meet additional financial obligations as they arise.



Choosing partners

It is unusual for any one individual to have all of the skills necessary to start, build, and lead a successful practice. That's one reason why new firms often start as partnerships. Teams of people who can work together and are mutually supportive usually create far better businesses than any one person can alone. Partners can help settle technical, legal, or managerial questions and are useful where more than one pair of eyes is essential to maintaining work quality. Many sole proprietors feel unable even to leave their firms long enough to take a reasonable vacation; a partner can keep the bases covered.

The classic firm leadership mix combines individuals who have the business-development skills needed to get work; the technical acumen to successfully complete it; and the management aplomb necessary to work with personnel and achieve the firm's financial goals. Things work best when each partner appreciates the importance of these attributes and has the ability to assume some of the responsibility for each of them.

Regardless of the firm's organi-

zational structure, the relationships between principals can either be a fundamental strength or can significantly damage the company's chances for success. Here are some things to consider when thinking about a suitable partner:

- You will probably work best with partners whose values are compatible with yours.
- Partners should like, respect, and trust each other. They do not have to be close friends, although this can be helpful.
- Partners do not have to put in equal effort or achieve equal results, but each must fill a principal role—as a manager, design partner, or business developer, for example—and make a principal-level contribution to the firm's well-being.

Once you've chosen a partner or partners, here are some keys to making the arrangement work:

Most successful partnerships have principals with complementary personalities and skills who respect their partners' different capabilities—in fact, one of the best things about your partners could be that they are not just like you. Strive for fairness in all things—allocation of financial distribution, professional credit, and the other rewards of ownership.

Put the basic understandings of the partnership or shareholders' agreement in writing—ambiguous or less-than-thoughtful language in such agreements has caused many partnerships to unravel.

If it turns out that your partnership doesn't work, you should try to end it quickly, and if at all possible, amicably.

MOST START-UPS NEED THREE TO SIX MONTHS OF OPERATING CAPITAL, PLUS ENOUGH TO COVER ORGANIZATIONAL COSTS.

Capital requirements

Start-up capital is crucial for any new firm and is required to fulfill two basic needs: initial expenses and the cost of funding operations until sufficient cash flow to sustain operations has been established.

One of the first questions most architects ask when contemplating a start-up is how much money will be needed. No two start-ups are exactly alike, but most find it necessary to have enough cash to cover three to six months of operating costs, plus the amount needed to cover organizational expenses. One way to calculate this is to make up a budget, very much the way that you would cost out a schematic design for a new building.

Organizational expenses to be considered are acquisition of office space and leasehold improvements, furniture, computer equipment and software, printed materials, marketing materials such as announcements and brochures, and office supplies. Operational expenses will be incurred for such things as salaries, benefits, rent and related occupancy costs, insurance, taxes, travel, copies, telephone, shipping, and so on. It may be a good idea to include a worst-case contingency fund for use in case cash flow doesn't materialize as soon as the partners hope it will.

And when will the cash start to flow? Some architects start their practices with a commission in hand, or at least the promise of one, which will enable them to begin work almost immediately after they open their doors. But services performed today will not produce cash until a client is invoiced and the receivable is collected, which can be weeks or even months later. The collection period norm is 90 days, although small start-up firms often get their bills paid much sooner.

If the firm starts without a commission in hand, it will need much more cash to keep going while the firm markets its services, secures commissions, performs services, sends invoices, and, finally, begins receiving enough payments to make its cash flow positive.

Sources for initial capital include personal savings; loans backed by equity in personal real estate; loans from friends and relatives; personal credit cards; Small Business Administration loans: and commercial bank loans.



Entrepreneurs should not be surprised when they discover that banks are reluctant to loan money to them. Banks want to be lenders, not investors. They don't want to be the primary stakeholder—and risk-taker—in your firm, and they prefer that architects provide at least half their start-up capital from their personal assets.

Professional services

Every firm needs a banker, and sooner or later most need a lawyer, an accountant, and a tax adviser, as well. Some even employ business consultants. Even those who choose to go it alone as sole proprietors shouldn't feel that they are alone—there are many sources of assistance for you.

When considering providers for legal, accounting, banking, or business-consulting services, look for someone who listens well, understands the unique problems of your profession, and has the requisite experience and knowledge to keep their learning curve to a minimum. If you have a specific problem you should weigh carefully whether the solutions they propose appear to be effective and proportionate to the issues at hand, and whether proposed costs are appropriate for the circumstances.

Architects consult attorneys to assist with partnership agreements, owner-architect agreements, and possibly liability and labor matters. It is essential that you establish a relationship with a knowledgeable attorney you like and trust. Frequently, a 5-minute telephone conversation with an experienced attorney can provide exactly the right information that will save hours of misdirected effort or needless concern.

It is not uncommon for architects to begin practice without the help of an accountant. If a firm stays very small, or operates as a sole proprietorship, it may never need accounting assistance. However, if a firm begins hiring more than a few employees, or the firm's legal organization is changed to a partnership, subchapter S-corporation, a professional corporation, or limited liability company, then more extensive record keeping and complicated tax returns are inevitable. These demand the services of an accountant. A good accountant can help the newly minted practitioner by setting up a payroll and by giving advice on how to set up a system of accounts that will facilitate both record keeping and financial management.

Since there is no practical way to operate a firm without a bank account, it is imperative to develop a good relationship with a banker. Bankers are important members of the community, especially small communities. In addition to their understanding of money and real estate markets, they generally serve a wide variety of individuals, companies, institutions, and government agencies. Consequently, they



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develop a useful understanding of these entities—knowledge that can be of service to their architect-clients. Many architects have done work that was referred to them by their bankers.

Since most architects learn to run their business on the fly, it may be helpful at some point for them to seek the advice of a management consultant. The best consultants have assimilated what they know from working with a wide variety of clients in different situations. They understand the underlying issues related to operating a business in a particular profession and can quickly apply their knowledge to new problems. They often provide perspective and impartial feedback that can be most useful when principals are grappling with crucial decisions such as whether to grow or move the firm in a new direction.

Ethics: start out right

Architects and other design professionals are expected to practice ethically, of course, and it almost goes without saying that one should establish one's firm on the highest of ethical principles. The AIA's Code of Ethics and Professional Conduct is a good place to look for guidance, even if you are not a member.

DON'T BURN BRIDGES. FORMER EMPLOYERS OFTEN PROVIDE ADVICE, SUPPORT, REFERENCES, AND EVEN REFERRALS.

Generally speaking, the ethical questions most likely to be encountered by persons starting a firm relate to their conduct toward their former employers.

All architects start out as interns who are employed by others. Those who start their own practices almost inevitably form the relationships and make the contacts that will enable them to go out on their own later while they are working for someone else. When opportunities to practice in your name come along, you may even try to a find way to serve private clients while remaining employed. If you take on outside work, you must use your own identity to get it and your own time and resources to do it. Don't ever imply that you represent your employer to get work for yourself. Always continue to work conscientiously for your employer.

Always ask permission before removing documents. Your employer is ethically obliged to provide copies of documents for projects on which you worked, but you should expect to pay for these copies yourself.

If, in the process of marketing your new firm, you are showing work you did for a former employ take credit only for the work that you actually did. Be sure to cite your employer on every project on which you participated as an employee.

While you are proscribed from interfering with your former employers' contracts, you are free to inform their clients that you are beginning your own practice. However, if you signed a noncompete agreement with your former employer, other conditions may apply.

You can offer fellow workers employment unless you have signed a noncompete clause that prevents it. In this case, it is best to inform others of your intention to start a practice, then let them decide to join you if they so wish.

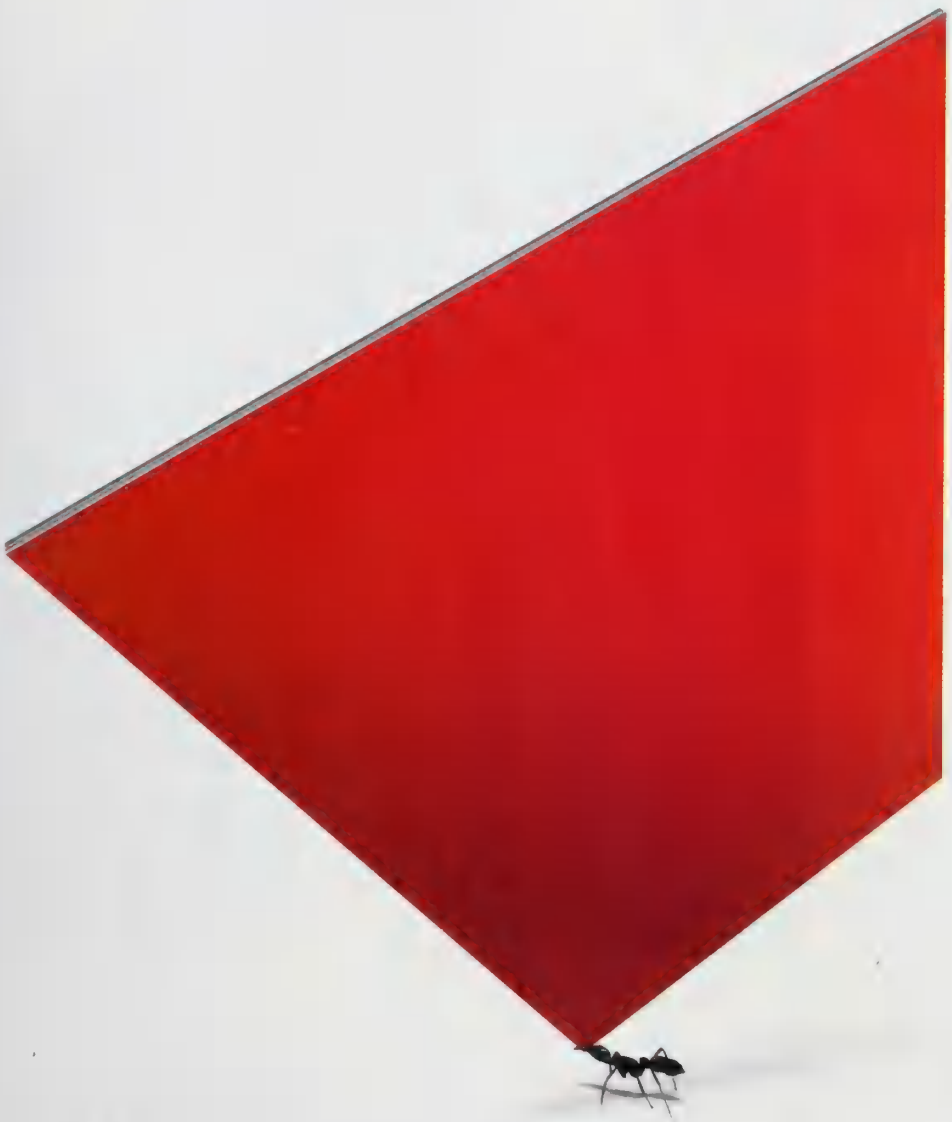
You may be surprised to find that former employers are often willing to provide advice and support, including references and, in some cases, referrals. Start your firm in an honorable way, and never burn bridges—you may want to cross them again. ■



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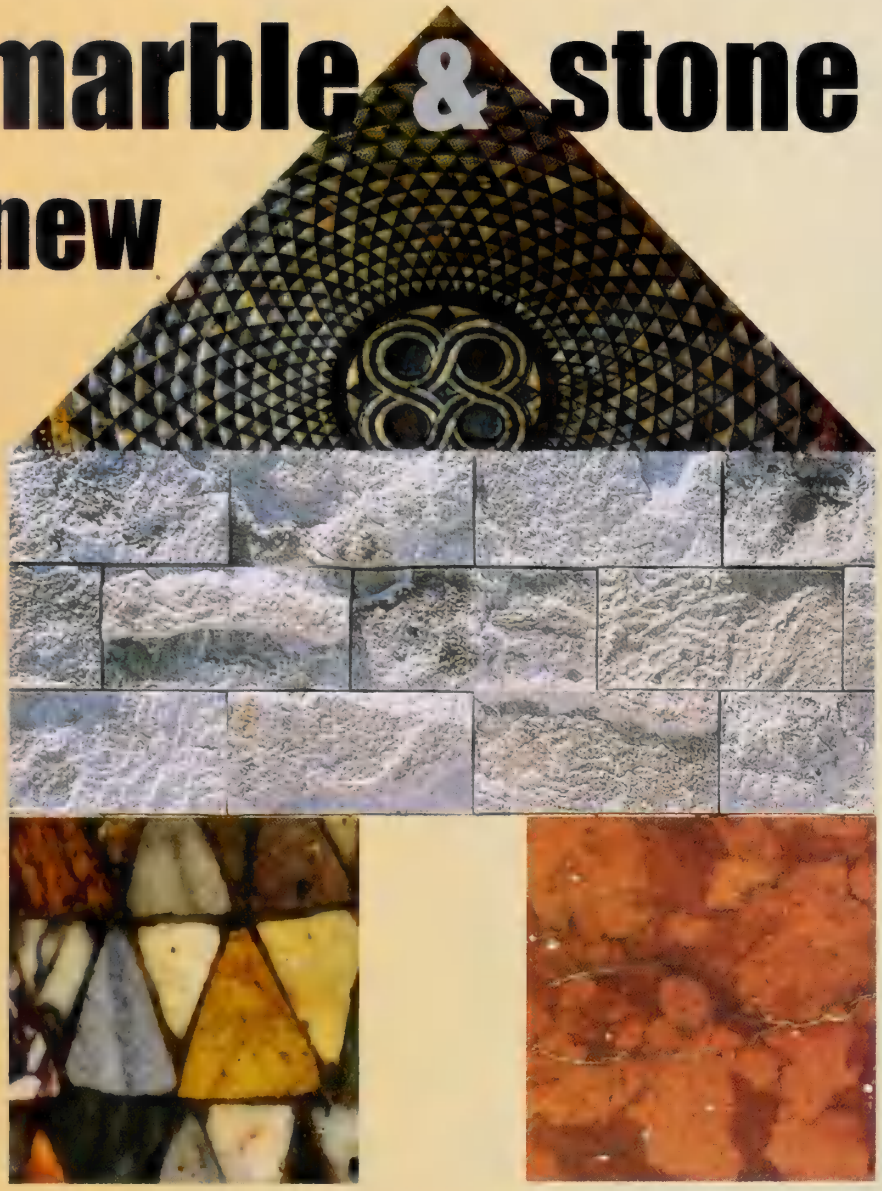
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Where are the visionary architects who can plan new cities now that we need them?

Critique

By Michael Sorkin

ll architecture is political. y marshaling and distribut- ıg resources, organizing ocial space, and orchestrat- ıg encounter, architecture is ıe medium through which uman relations are given imension. Since 9/11, nages of assaults on build- ıgs and cities have become ıbiquitous symbols of politi- al action, surrogates—in a var without corpses—for our own corporeality. As we vatch the war on Iraq unfold- ng in real time on TV, we are ntroduced to a modified, mil- tarized, urbanists' discourse, different from our own, but illed with mirror images of archi- ecture's techniques.



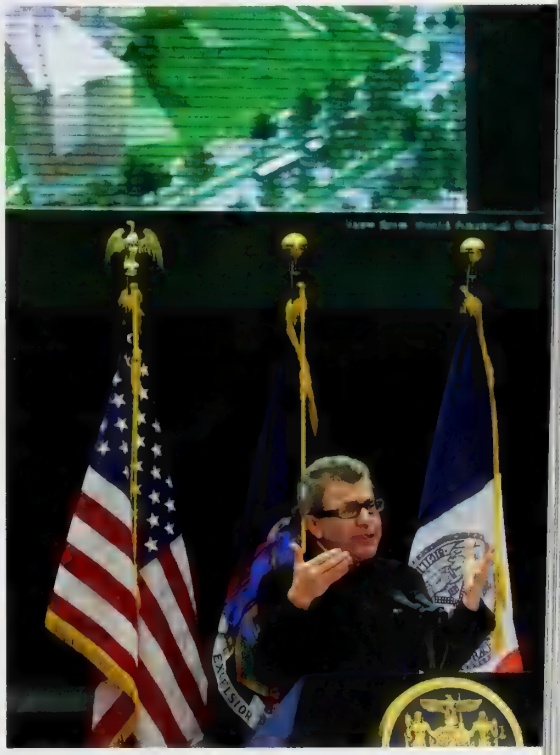
General Tommy Franks, March 21, 2003.

To accomplish the ends of this new "war-fighting ecosystem," cities must be stripped of their character as human settlements and remeasured. If by Al Qaeda, the city becomes Satan's lair, the habitat of devils; if by our own military, it becomes an urban space simply devoid of habitation. We see the city with the brutal objectivity of "aim points" and "target sets" for weapons so accurate they can be remotely aimed—from across the street, from Qatar, Florida, or from outer space—at windows. Because their precision is "beyond belief," in the words of Secretary of Defense Donald Rumsfeld, he can celebrate a strategy predicated on the easy technical classification of good buildings and bad (surrogates for good people and evildoers), and direct retributive fire to its targets from prescient satellites hundreds of miles away. The clean and distant imagery—from the World Trade Center collapsing to the row of mushroom clouds rising over Baghdad—is equally depopulated for those who perpetrate and for those who observe. The message is not simply that we cannot miss, but that no one really gets hurt.

The media make use of architecture's tools, as well. Each network employs global imagery from one or another simulation shop to extend its own panoptic reach. As we zoom in on Baghdad from a position in space, a fabulously detailed computer image of the landscape seamlessly morphs into an aerial photo of the city, then back to a CAD rendering of the presidential palace to be taken out. At the scale of the city, sinister installations are clearly marked—Saddam Airport, Baath Headquarters, the Planning Ministry—so we can map and assimilate both the networks and points of evil, ready for the acupuncture to be administered by our unfailing Tomahawks.

Like their civilian counterparts, military planners are experts at zoning. After the first night of Shock and Awe in Iraq on March 20, the architectural and urban plans became more detailed. Stretching for several miles along the Tigris, a neighborhood of evil was introduced to us, a continuous concentration of the architecture of the Saddamite regime, an area of darkness, precisely red-lined to become a pyrotechnic cauldron, ready for its close-up from the roof of the Al-Rashid or Palestine hotel. Dots on the map suggest that we have administered the appropriate corrective dose only where it is needed. By pathologizing in advance all that we hit, the noisome problem of collateral damage is obviated: It's just urban renewal. Indeed, according to an op-ed piece by Daryl G. Press in the March 26 *New York Times*, Baghdad is particularly well designed for invasion. Lacking tall buildings and laced—unlike Grozny or Mogadishu—with broad boulevards, the city's terrain is not, as Press writes laconically, "ideal for urban defense."

To justify the war, Bush repeatedly elided 9/11 and the attack on Iraq as cause and effect. There is something striking in the coincidence of the planning endgame at Ground Zero with the violent site clearing and promised reconstruction underway in Iraq. Already, the *Times* had reported that the administration has invited Bechtel, Fluor, Halliburton, Parsons, Washington



Daniel Libeskind and his winning scheme for the World Trade Center site, February 27, 2003.

Contributing editor Michael Sorkin is the director of the urban planning program at City College of New York.

(successor to Morrison-Knudson), and the Berger Group to bid on billions in projects via an accelerated process. "Bechtel would be proud to rebuild Iraq," a spokesman is quoted as saying, and surely they would be proud to get a piece of the action in downtown New York City, as well. Iraq will require its own development corporation, and the administration is suggesting that these contracts will be supervised by an "interim authority" (shades of the LMDC and the Port Authority), only answerable upward. War becomes the extension of planning by other means.

Our own response as architects has been uninspiring. Architecture's political voice speaks in many tongues, and there is no reason to assume that our views—never mind our styles of expression—should be uniform. To the contrary, the idea of liberty (and of its product, difference) is the repudiation of the single voice. At the same time, this expressive latitude does not mean a world of endless relativism, one in which the defense of principle is made moot by an idea of tolerance that reduces social relations to a Hobbesian jungle of pure opportunism and anything goes. In particular, we look to our avant-garde for a riposte to power, for our own targets of opportunity. Avant-gardes always harbor the political, the idea of the overthrow of the status quo. To escape mere nihilism, though, there must be some integral vision of the good, however obscure its forms at present. Unfortunately, our response to the destruction of the idea of the city by neoliberal globalization or by neocolonial warfare has produced little constructive speculation about urbanism's future. Having seen the looming disaster, too many of our most talented have simply embraced it: Many architects are

THE CITY CONFRONTS FOUR MAJOR CHALLENGES IN THE FUTURE, ALL OF WHICH HAVE IMPLICATIONS FOR FORM.



Diller + Scofidio's *Tourisms* installation at the Whitney Museum in New York.

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coming proponents of the sprawl d the one-size-fits-all mentality at is strangling the earth.

But what ideas of the good y are truly worth defending? d how can the architectural ant-garde use its quiver of inno- tion and transgression to defend em? For me, the city confronts ur major challenges in realizing future, all of which have impli- tions for form. The first of these sustainability, the idea that mbers and resources must be alanced in order to conserve and hance the health of both cities d the planet. The second issue access. This entails the just dis- bution of global resources and e "freedom of the city" that is a ndamental right of urban citizen- hip. The third is the defense of ivacy from the multiplication of chniques of surveillance and the anipulation that prevent us from eely forming and maintaining our ense of self. Finally, valuable liv- g cultural and physical ecologies ust be preserved. No intelligent form of urbanism can neglect the defense of its historic successes.

On an exponentially urbaniz- ing planet, the construction of new and sustainable cities is an urgent necessity, and we haven't risen to the challenge. Given the struggle between the goals I've listed and the pressures of a winnowing globalization and militarization of culture and control, the challenge is both how to build these cities and how to find the means for their individuality. Neither nostalgic visions nor the depredations of planning left to the ineffable wis- dom of the market will do: Not only bombs obliterate. This assault puts the premium on artistic invention, for the creation of a singular architecture that is sustainable, malleable, and beautiful. And it is here that an engaged avant-garde becomes more crucial than ever.

Two of our most celebrated avant-garde architectural firms have very visible projects in New York just now. Daniel Libeskind's scheme for the reconstruction of Ground Zero [RECORD, March 2003, page 29, and April 2003, page 33] and the exhibition of the work of Liz Diller and Ric Scofidio at the Whitney Museum, *Scanning: The Aberrant Architectures of Diller + Scofidio* [RECORD, April 2003, page 103], are widely celebrated as the best and most truly innovative we can do. But seated comfortably in their institutional venues, do either of these firms have the potential for either clarifying shock or inspiring awe? Is there anything new here?

SEATED COMFORTABLY IN THEIR INSTITUTIONAL VENUES, DO THESE FIRMS CLARIFY SHOCK OR INSPIRE AWE?

The final Libeskind scheme is simply conventional, its putative avant-gardism occlusive rather than innovative, offering up poignant, if familiar, symbols to "balance" the real investment to be made and the major uses to which the site is to be restored. The grid will return, there will be shops on the street and in a vast mall underground, and millions of square feet of unneeded office space will be built. The program will be just as it was. Yet for the authori- ties, who were so roundly castigated for previous failures of innovation, the idea that they're now actually thinking out of the box is bolstered by foregrounding Libeskind's pro- gressive credentials (established by referring to previous "avant-garde" work), by his hip costuming and self-presentation, and by the thick camouflage of angularities shroud- ing the architecture whose future may or may not be in his control. At the same time, the idea that this formal experimentalism might har- bor a risky politics is defused by Libeskind's sleeve-worn heart, by treacly recitations of his immigrant sagas, by the sudden appearance of an American Flag in his chic lapel, and by his grinning face as he rings

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the opening bell at the American Stock Exchange, much like Michael Eisner or Martha Stewart at the New York Stock Exchange.

At the Whitney, things are decidedly more promising. Diller and Scofidio have long worked with acumen and verve at the sites of crucial issues in urban politics. By addressing the rites of tourism, the media of surveillance, the rituals of domesticity, the alienation of everyday life, and the centrality of the body to architecture, their practice can be said to be genuinely critical. Canny in their combination of irony and sensuality—two of the cudgels historically used by the avant-gardes to browbeat cultural norms—these excellent designers, by responding to the threats of the virtual, continue to celebrate the prosody of the physical.

If I have a question with their work, it is with a certain failure to behave badly, and for their selection of targets grown long in the tooth. This is the old issue of how acceptable a message can be before it simply becomes part of the medium. Caught up in a hyperaesthetic critique, the work seems to pull its punches, dilating on ambiguity and mixed messages. But does anyone in the Issey Miyake generation actually iron (*Bad Press: Dissident Housework Series*)? Hasn't the numbness of the robotic production line been better covered by Fritz Lang and Charlie Chaplin (*Master/Slave*)? Has anyone failed to observe the homogenization of tourism (*Tourisms: suitCase Studies*)? Must we still express superiority to simple folk who love their lawns or their vacations (*The American Lawn: The Surface of Everyday Life*)? Is surveillance really deconstructed by video monitors over the bar at the Brasserie? This is work that makes me long for both the rapier and for utopia, for the out-of-bounds, for violence or hilarity or idiosyncracy.

AS A HYPERAESTHETIC CRITIQUE, THE WORK SEEMS TO PULL ITS PUNCHES, DILATING ON AMBIGUITY AND MIXED MESSAGES.

The power of Diller and Scofidio's project, though, is not its p.c. critique, but the form of its objectification. When the beauty is flat out—as in their tense suspension of Samsonite luggage in the *Tourisms* installation at the Whitney, or that stunning Blur building in Lake Neuchâtel at the Swiss Expo for 2002, or those intoxicatingly theatric choreographies (such as the *Jet Lag* multimedia play)—the longing for a better world finds focus. If the avant-garde is to have a utility beyond indulgence, it's time for both excess and straight talking, for the surrender of irony and hair-splitting intelligence to a frenzy of demands for a better world. The strategy of the avant-garde depends, always, on too much, on some willing form of bad behavior, on blurring old certainties. But totalitarianism trumps ambiguity every time. War is the ultimate bad behavior and the canny politicians in charge of the current carnage—by constantly presenting themselves as an avant-garde, inventors of the "revolution in military affairs" and pioneers of a new "battlespace"—try to supercede their own savagery by giving it fresh form. We must do better than this. What's needed now are clear propositions at the scale of globalizers, whole cities imagined from scratch, big chunks of alternative realities. Against the aesthetics of alienation and annihilation we must respond with fresh forms of survival and joy. Architecture must take the field. ■

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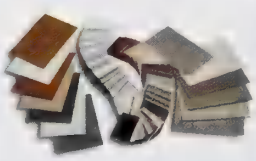
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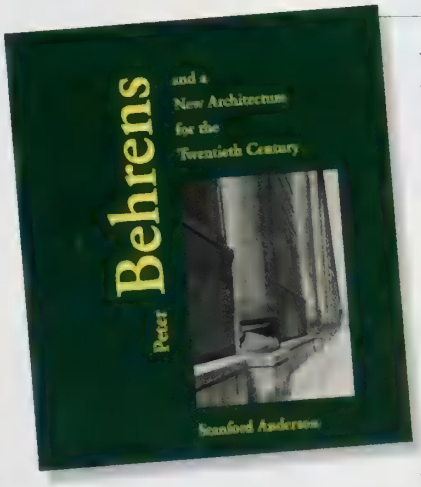
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Books

Peter Behrens and a New Architecture for the Twentieth Century, *by Stanford Anderson. Cambridge, Mass.: MIT, 2003, 443 pages, $42.*



Peter Behrens is now mostly remembered for his work in the early 1900s for the German General Electric company, the AEG, for which he designed a range of new products and graphics as well as buildings. His interest in designing for industry deeply influenced three architects who worked for him in Berlin around 1910: Walter Gropius, Ludwig Mies van der Rohe, and Le Corbusier.

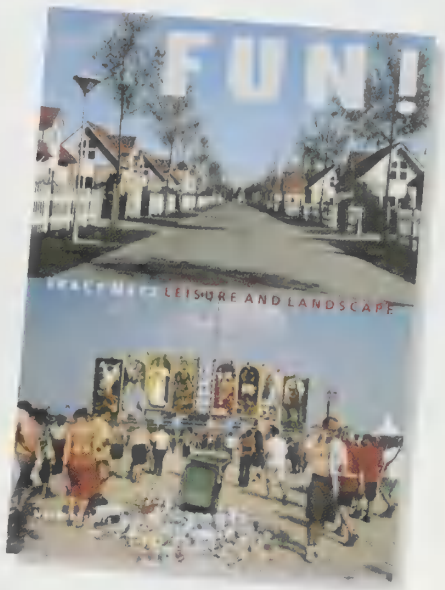
For these reasons alone, one would expect that there would be a considerable amount of historical research on Behrens, yet this has not been the case. His later stylistic and ideological shifts, first following the younger generation in Germany toward the Modern movement in the 1920s and then returning to official Neoclassicism as a Nazi in the 1930s, have understandably tended to dampen enthusiasm for his earlier contributions to architecture. This clear and critical book on Behrens by eminent MIT professor Stanford Anderson is a welcome addition to the still rather small literature on Behrens in English. It includes a complete listing of Behrens's works and an updated bibliography of the mostly German-language scholarship on him.

It is much to Anderson's credit that he does not attempt to gloss over the ultimately disreputable nature of Behrens's later politics. Anderson first situates Behrens in the cultural context of the early 20th century, when he turned from the Art Nouveau and Viennese Secessionism of the Darmstadt colony toward a geometrically simplified Neoclassicism. The author then examines the theoretical basis of Behrens's work and traces in detail his strategy for uniting technology and art around 1910. This part of the book includes a consideration of Behrens's important influence on the German Werkbund, which has also been the subject of a book-length study by Tilmann Buddensieg. Anderson's primary focus here is on Behrens as an architect who attempted to give form to early-20th-century Germanic ideas about the need to synthesize art and industry. Like many of his contemporaries, Behrens believed that the new 20th-century industrial era had its own "will to form," or *Kunstwollen* (a term coined in 1893 by the Viennese art historian Alois Riegl), which differed from all previous historical epochs. In his most famous work, the AEG electric turbine factory in Berlin (1908), Behrens attempted to "spiritualize" German industrial production through the use of modern industrial materials, constructing forms that suggested, but did not directly imitate, Greek temples and medieval monastic halls as well as modern factories.

Unlike earlier Modernist historians, Anderson does not attempt to suggest that with this building Behrens had moved beyond a modernized and industrialized version of the Classical tradition. He instead situates the Turbine factory in relation to other works of Behrens's office at this time, such as the Mannesmann offices in Düsseldorf (1910) and the German Embassy in St. Petersburg (1912), whose exterior clearly foreshadowed the later stripped Classicism often associated with totalitarianism. This aspect of Behrens's work, so important to 20th-century architecture between the world wars, is given equal weight to the other aspects of his wide-ranging and highly influential career. *Eric Mumford*

Fun! Leisure and Landscape, *by Tracy Metz, with photo essays by Janine Schrijver. Rotterdam, the Netherlands: Nai Publisher, 2002, 285 pages, $32.*

On Queens Day, in the Netherlands, author Tracy Metz (RECORD's correspondent in the Netherlands) tapes off part of the narrow street in front of her house. It faces one of Amsterdam's breathtakingly beautiful canals and is prime real estate on this national holiday turned giant street fair. She auctions her space to a college students' beer stand and leaves town. On another day, glitter-spangled wigs and well-toned bare male torsos make their way past her canalside window en route to the Gay Parade, a spectacle that now draws 250,000 gawking onlookers, three times the population of the city's historic center. "I feel like a tourist in my own city, an object in my own museum, an attraction in my own amusement park," she writes.



Amsterdam has not entirely turned itself over to tourists, as have Venice, Florence, and increasingly, Rome. But even the casual visitor might wonder if Europe—with every centuries-old center pedestrianized and cutesified and filled with culture

fairs—is not on its way to becoming the Boutique Continent.

In her survey of what she calls the "leisure landscape," Metz gives an ironic Dutch perspective to the globalized industry of fun. Landfills in this damp, mountain-free nation have been converted into artificial ski slopes for eager tourists and natives. Leisure villages—which look to American eyes like toy 1950s tract suburbs—have popped up in the exurban agricultural frontier. The rise of spectacle architecture is implicated: Rotterdam's Department of Leisure Economy deploys Ben van Berkel's Erasmus Bridge as the battered port's cheerful new logo. Rem Koolhaas, Harvard's czar of shopping, is replanning the 1960s suburb of Almere as a multilayered infrastructure of retail, transportation, and relaxation.

While places like Tuscany and Provence have been fully transformed into lifestyle concepts, Amsterdam, to the casual visitor, seems to have found a sane alternative. In *Fun!*, Metz assures us that it, too, is being loved to death by tourism. The Dutch are analyzing the leisure phenomenon with enthusiasm, but they don't know any better than Americans do how to live a real life in a place perpetually under siege by those who want to consume it. Are they really looking for answers, or content to just enjoy the show? *James S. Russell, AIA*

Albert Kahn: Architect of Ford, *by Federico Bucci. New York: Princeton Architectural Press, 2002, 184 pages, $24.95.*
Adolf Loos, *by Panayhotis Tournikiotis. New York: Princeton Architectural Press, 2002, 200 pages, $24.95.*
Adalberto Libera, *by Francesco Garofalo and Luca Veresane. New York: Princeton Architectural Press, 2002, 208 pages, $24.95.*

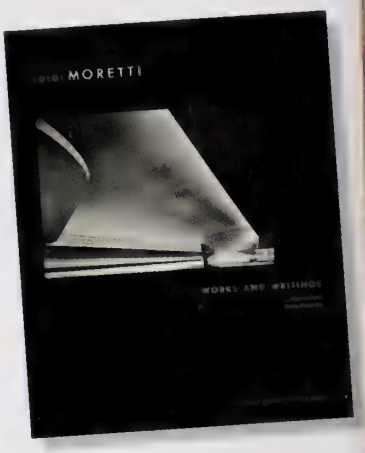
At first glance, the subjects of this little series seem only loosely connected, if at all. But Albert Kahn (1869–1942), Adolf Loos (1870–1933), and Adalberto Libera (1903–63) were roughly contemporary, and none was a Fountainhead-type architect. Albert Kahn insisted, "Architecture is 90 percent business and 10 percent art." Of his firm, he wrote, "There is no place here for the temperamental artist. The clearheaded businessman must have charge." In 2002, Kahn was nominated for the AIA Gold Medal. At a time when designers of eye-popping buildings are king, should we be surprised that he didn't win?



Kahn was known, of course, for his industrial buildings, especially those for Henry Ford. The industrialist wanted not an artist who would build a glorious image, but a designer capable of responding concretely to the specific demands of mass production. Bucci writes that Kahn was indeed closer to the pragmatic industrialists for whom he worked than to the intellectual designers of his day—or any day. Kahn felt that the architect was a technician at the complete disposal of the client.

Loos was better known as a rationalist theoretician than for his architecture, including the American Bar, Vienna (1907); Steiner House, Vienna (1920); Villa Mueller, Prague (1930); and his Chicago Tribune competition entry of 1922 in the shape of a column. Unlike Kahn, Loos was seduced neither by industry nor technology, both of which "he considered fatal to the historical evolution of humanity," writes Tournikiotis. But like Kahn, Loos had little truck with the idea of the architect as artistic genius. The architect, he believed, should be a mason who espouses an aesthetic of truthful construction and utility. Loos is known for the maxim, "ornament is crime," but said of it in 1924, "I affirmed 26 years ago that the evolution of humanity would cause ornament to disappear from functional objects.... But I never thought like the purists who pushed this reasoning to the absurd, that ornament should be systematically abolished." He believed in " 'belonging to one's time' and, consequently, to tradition," writes Tournikiotis.

Unlike Kahn and Loos, Libera, the Italian protagonist of Modern architecture, fully identified with the avant-garde. Before World War II, he was a rationalist theoretician and architect, whose designs included the Italian pavilion for the Chicago World's Fair (1933) and Casa Malaparte, Capri (1938). He associated himself with Mussolini's Fascist state and wrote propaganda for it. After the war—and a period of reflection—he became a leading figure of postwar reconstruction and a significant architect, mainly of housing, and a city planner during the boom of the 1960s. But his prewar architecture, as shown in this book, was no match for such fellow Fascists as



Terragni and Piacentini. And Libera's postwar buildings look pedestrian—more muscle than inspiration. Which, however, is no reason not to welcome this first English volume about him.

Each volume in this series is about 200 pages long and printed in black and white. All are very readable. *Andrea Oppenheimer Dean*

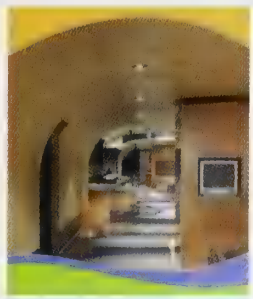
Luigi Moretti: Works and Writings, *by Federico Bucci and Marco Mulazzani; translated by Marina De Conciliis. New York: Princeton Architectural Press, 2002, 232 pages, $100.*

Think of Fascist architecture, and Albert Speer's ponderous, Classical confections come to mind. In Fascist Germany, working in a Modern idiom was cause for prosecution or worse. Not so in Italy, where the Fascist years produced many gracefully Modern buildings. Luigi Moretti (1907–73) created some of the best examples, including the urban plans for the Foro Italico, the Piazza Imperiale, and the Palazzo Civilta, all in Rome, and his renowned entry for the E.U.R. competition of 1937. Moretti neither recanted his Fascism nor associated himself with the prevailing rationalists, whose architecture he described in 1936 as "born on paper, where it will live and die infallibly." He identified himself primarily as a Roman, and found inspiration in the Baroque works of Bernini, Borromini, and Michelangelo, as well as the Greek architecture of the Parthenon. "He was of the avant-garde but also of the ancients," Mulazzani writes. Ironically, his postwar designs were



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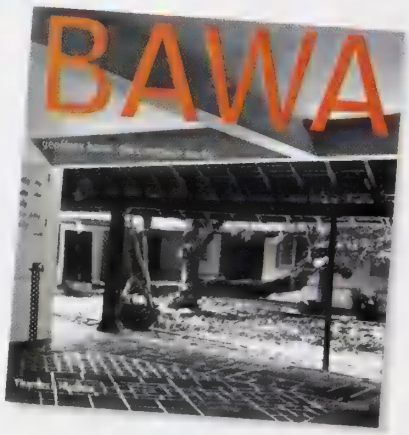
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bulky and closed compared to his earlier open, elegant volumes, although in the Montreal Stock Exchange (1964) and the Watergate Complex in Washington, D.C. (1971), he mitigated massiveness with abundant glazing.

Moretti has been overlooked largely because his major patrons—the Fascist Party before the war, the Church and the Roman aristocracy afterward—were anathema to the left-leaning culturati. This book, illustrated with beautiful period photographs, attempts to jump-start a reevaluation and bring Moretti's work to a larger audience. The publication is marred, unfortunately, by Mulazzani's ungainly Italianate English, probably a fault of translation. *A.O.D.*



Geoffrey Bawa: The Complete Works, *by David Robson. New York: Thames & Hudson, 2002, 278 pages, $65.*

The work of Sri Lankan architect Geoffrey Bawa, recipient of the Aga Khan Chairman's Award for 2001, follows in the footsteps of Mexico's Luis Barragan and Egypt's Hassan Fathy in exemplifying Third World architecture at its best. Bawa's buildings in Sri Lanka include houses, hotels, and an assortment of commercial, industrial, educational, and public structures, including Sri Lanka's New Parliament building (1979–82). From the late 1940s onward, as the world sped toward modernization, Bawa's architecture fused Modernist principles with indigenous traditions, environmental awareness, and regional appropriateness. In a rare interview in 1989, he said, "I have begun to think that regionalism is what happens automatically, coming out from the needs of the place … If you take local materials and the general feel of the place into account, the resultant building automatically becomes regional." If he was a regionalist before that term came into common use, Bawa was also a green architect before the moniker was coined.

Bawa was born in 1919 in multiethnic but socially stratified colonial Ceylon. He practiced law in England and Sri Lanka before turning to architecture in his 30s. David Robson, a friend of Bawa's and a professor of architecture at the University of Brighton, U.K., intended to write this book with the architect, but his plan was thwarted when Bawa had a severe stroke in 1998 that ended his career. Continuing alone, Robson's intention was to "shed more light on Bawa's complex personality" and to place his work in perspective. Well-written and well-produced, the book adds to and updates Brian Brace Taylor's 1990 and 1996 books on Bawa. The opening chapters set the scene, filling us in on the architect's early life and the history of Sri Lankan architecture. Robson ties the architect's evolution to key periods of political and economic development in Sri Lanka. The author shows Bawa evolving from a Tropical Modernist, to a regionalist, to an architect of the state, to a "grand designer."

In the end, Robson writes, Bawa's "commitment to Modernist ideals has enabled him to find new ways to resolve the contradictions inherent in the dialogue between the local and the global." *A.O.D.*



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Of blobs, bridge engineers, green building, and photography: A potpourri of spring shows

Exhibitions

Intricacy. *Curated by Greg Lynn. At the Institute of Contemporary Art, Philadelphia, through March 30, 2003.*

With the recent exhibition *Intricacy* at Philadelphia's Institute of Contemporary Art, Greg Lynn, the show's curator as well as the architect most associated with the biomorphic buildings often called "blobs," reveals himself to be surprisingly old-fashioned. After all, the show isn't about theory, but aesthetics: As he writes in the accompanying catalog, his subject is "surfaces and their articulation through subdivision, modulation, panelization, structure and massing. The most obvious connections between the works," he adds, "are formal." Even more surprising, most of the works of art chosen to complement the architectural models are paintings and sculptures, not installations. One of the few conceptual pieces, Roxy Paine's *Case #11* (1998), is a specimen cabinet filled with polymer blobs, labeled, for example, "EBMA" and "CCC" (these turn out to refer to "explosive bulbous multiple appendages" and "creamy clustered convoluted"). Paine has produced, essentially, a field guide to blobs—a reminder of the difficulty of categorizing irregular forms, as opposed to, say, circles and squares.

Paine's display case is Lynn's show in microcosm. The California-based architect, a globe-trotting lecturer currently teaching at Yale, UCLA, and the University for Applied Arts in Vienna, has gathered together artworks and architectural models and assigned them to three categories. First are objects made of separable parts: If the parts are identical (think bricks or latticework), Lynn calls the resulting objects "aggregations"; if the parts are different, he calls them "assemblages" (with a nod to art historian Rosalind Krauss and others). In the art category, the aggregation that makes the strongest impression is Tom Friedman's *Untitled* (2002), a cube composed entirely of packing peanuts. On the architecture side is Office dA's plan for a pavilion in Tongxian, near Beijing, in which brick walls become miraculously plastic.

Lynn's third category focuses on true blobs—"parts that are inextricably smoothed together and fused," creating nondivisible forms. Here Lynn focuses more on art than on architecture, not surprising given the difficulty of creating buildings that look like puddles or intestines. Eisenman's 1999 proposal for the Quai Branley Museum in Paris, in which 19th-century buildings seem to melt or morph into undulating appendages, produces an effect, Lynn writes, like that of "a pastry chef, smoothing frosting with a knife"—which is infinitely easier to achieve at model scale than at 1:1. Lynn writes, "Disavowing the disjunction of collage, intricacy privileges fusion by either superimposition or surgical connections along edges." But issues like cost, gravity, and sustainability lead, in the real world, to collage (or worse)—think of Steven Holl's Simmons Hall at MIT (this issue, page 204), where the joints





Intricate objects: Bonnie Collura's *Skywalker* (above), a mixed-media installation with references to fairy-tale and mythic characters; Roxy Paine's *Scumak* series (right), expressions of art making; Peter Eisenman's proposal to connect the buildings of Paris's Quai Branley Museum (below).



between rectilinear and organic forms are, at best, awkward. Even the heralded Korean Presbyterian Church of New York, designed by Lynn with Michael McInturf Architects and Douglas Garofalo Architect, consists of several blobby forms mounted, not always gracefully, onto a rectilinear building. Technology, alas, can't turn packing peanuts into peanut butter. This is no doubt disappointing even to Lynn.

The show doesn't focus on the issue of technology, which Lynn has delved into in much of his previous work. How these buildings will be built is a subject for another exhibition (of the architectural works in the show, only one is completed and two are under construction). Lynn's goal was to open a dialogue between artists and architects about a shared aesthetic impulse, and at that, he has succeeded. *Fred Bernstein*

The Art of Structural Design: A Swiss Legacy. *Curated by David P. Billington. At the Princeton University Art Museum, Princeton, New Jersey, through June 15, 2003.*

In 1947, the Museum of Modern Art in New York City lauded the artistry of Swiss bridge engineer Robert Maillart (1872–1940) with a one-man show. More than 50 years later, Princeton engineering professor David P. Billington has organized an exhibition of models and images that pays homage to Maillart and three of his countrymen—Othmar H. Ammann (1879–1965), Heinz Isler (b. 1926), and Christian Menn (b. 1927)—for contributing to the beauty of the built environment.

The work of these four engineers is widely hailed as the most revolutionary structural design of the 20th century. Maillart's hollow-box concrete construction for bridge decks, for instance, is now a standard design technique—but it was as innovative in his day as the achievement of Gehry's curvaceous Bilbao was in the mid-1990s. Ammann's oeuvre includes nearly every bridge crossing into New York City from New Jersey and Long Island; Isler's work in thin-shell concrete created an entirely new structural form; and Menn's most recent project, the Bunker Hill Bridge in Boston, is becoming a Beantown icon (although Menn is said to dislike the final design, which has shorter towers than he envisioned).

All four men studied at the Federal Institute of Technology (ETH) in Zurich, and Billington says this institution has had a seminal influence on the education of engineers. Billington himself is a pioneer in this regard: In 45 years at Princeton, he has reintroduced the humanities into engineering education, a connection that has largely been lost as the profession has become increasingly focused on methods of technical analysis. "Engineers, and especially academics, often argue that aesthetics are not part of their profession. One major objective of education in engineering should be to encourage students to see, accept, and begin to use that elemental sense of aesthetics," Billington writes in his book that inspired the show and shares its title.

In fact, the exhibition doesn't quite hold its own without Billington's book, which is mounted page-by-page alongside the models, built by his students. Particularly compelling in the exhibition are Isler's exquisitely illustrated technical notebooks.

The twin goals of the structural engineer—to create strength and to minimize weight—are challenges of the highest order. Billington's show and the accompanying book firmly establish the four featured engineers as masters of form and function, and make the case for regarding structural engineering as an art form in its own right. *Deborah Snoonian, P.E.*







Maillart's award-winning Chatelard Aqueduct (above); a thin-shell concrete canopy by Isler (left) sits atop the roof of his building; Ammann's spare, modern Bronx-Whitestone Bridge (below).

Assignment GREEN: A Survey of Eco-Design Education in New York, 2003. *Curated by David Bergman and Erika Doering. At the Municipal Art Society, New York City, through April 29, 2003.*

Earth-friendly clothing rubs shoulders with product designs and architectural models at this showcase of student work from eight schools in New York City. The show was the brainchild of O2NYC, an ad hoc, multidisciplinary collective of designers to which curators David Bergman and Erika Doehring belong. The two teach at Parsons School of Design and the Pratt Institute, respectively.

Bergman advocates what he calls "transparent green design," which avoids typical aesthetic connotations such as craftsy, hand-made appearances or straightforward reuse of discarded materials. The work in this show is not transparent, as little green design is yet—but the products do show imagination, a primary measure of success for student work of any stripe.

As is often the case, the most thought-provoking green projects involve urban studies and landscape. The best example is a project undertaken by students at City College, who analyzed the historic ecological "footprint" of cities of a million or more residents, including Tokyo in 1760 and Cairo in 1927. The data they collected can be used to study current patterns in large urban areas, with an eye toward minimizing local environmental impacts.

The show's intent is to raise awareness about sustainability in

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Exhibitions

education in hopes of fomenting a center of green-design excellence in New York. That O2NYC managed to mount an exhibition from so many disparate sources is to be commended; that the show indicates progress toward its intended goal is even better news. *D.S.*

Thomas Struth. *Curated by Maria Morris Hambourg and Douglas Eklund, at the Metropolitan Museum of Art, New York City, through May 18, 2003.*

By photographing buildings and streets, Thomas Struth transcended the role of architectural photographer to become the creator of contemplative portraits of urbanism, globalization, and architectural spectacle. Over several decades, Struth has developed a method of making familiar sights fresh, causing viewers to look more closely at what they take for granted. While this retrospective explores Struth's vast range of subjects, his recent images of urban architecture suggest he is returning to his original interest in photographing streets.

A student of renowned Düsseldorf Academy teachers Bernd and Hilla Becher, Struth developed an analytical approach to photographing architecture with his early black-and-white images of New York City and of European cities. His photographs chart the cities' decay and renewal, conveying the mood and culture of the locales. Struth has since explored other subjects, such as people who flock to museums and monuments in his famous series *Museum Photographs*. Even though the images focus on the people at these cultural sites, Struth's photographs study the act of observation with the same dispassionate eye that charts his inanimate subjects.







Student projects from *Assignment GREEN*: a curtain created from film canisters (top); furniture made of liana cane from Guyana (above right); and a wall hanging composed of tubing from the textile industry (right).

Perhaps Struth's greatest gift is his ability to analyze the way people observe their surroundings. The link between an image of a parking lot in Dallas and the pandemonium of New York's Times Square is that Struth sees the importance of reflecting upon a banal environment as well as a spectacular one.

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Despite the obvious disparities among his subjects, Struth's photographs all explore the underlying character of the cultures they represent. *Diana Lind*

Bronzeville: Black Chicago in Pictures, 1941–43. *Curated by Maren Stange. At the International Center of Photography, New York City, through May 25, 2003.*

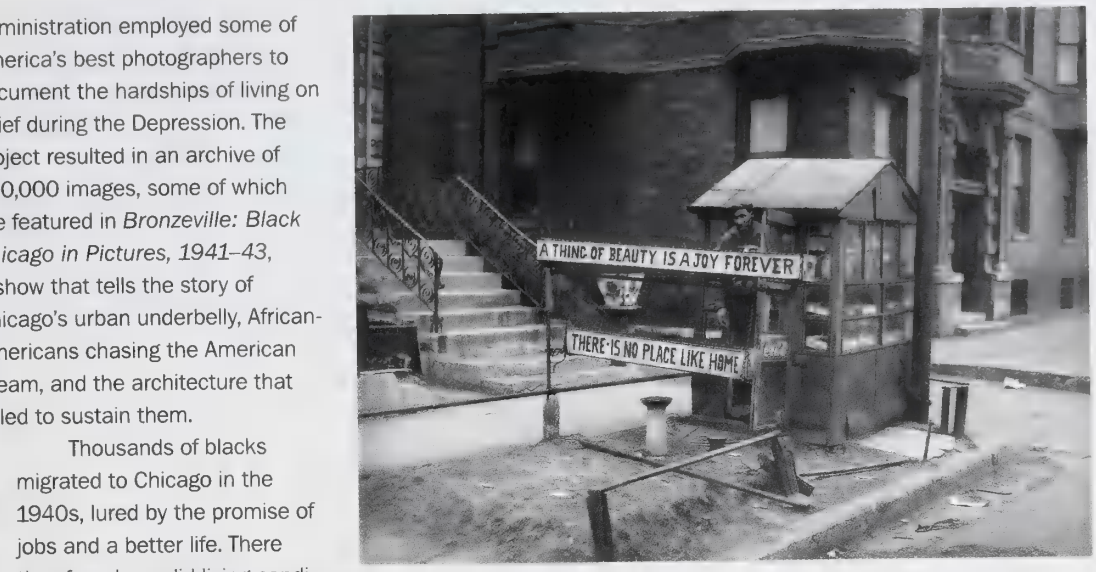
During its nine years of existence, the Farm Security Administration employed some of America's best photographers to document the hardships of living on relief during the Depression. The project resulted in an archive of 200,000 images, some of which are featured in *Bronzeville: Black Chicago in Pictures, 1941–43*, a show that tells the story of Chicago's urban underbelly, African-Americans chasing the American dream, and the architecture that failed to sustain them.



Struth turns a dispassionate lens on Crosby Street in New York's SoHo district.

Thousands of blacks migrated to Chicago in the 1940s, lured by the promise of jobs and a better life. There they found squalid living conditions in the 10-square-mile area then known as Bronzeville. Four photographers—Russell Lee, Edwin Rosskam, John Vachon, and Jack Delano—captured the duality of this place, where a vibrant African-American culture developed despite factors that made simple living a struggle.

While the exhibition explores all aspects of life in Bronzeville, from nightlife to churchgoing, the core images in the show painstakingly document everyday life in the dilapidated "kitchenette" apartments of the neighborhood. Lovely facades on the main avenues of Bronzeville disguised these cramped, one-room spaces where entire families lived cheek by jowl. Richard Wright once called the kitchenettes a "death sentence without a trial," suggesting not only that the buildings were unsafe, but that they were also an impediment to blacks' growth. Bronzeville is a poignant study in urban planning, a testament that housing remains an essential part of understanding any defining historical moment. *D.L.*



Poor living conditions were an unfortunate hallmark of 1940s Bronzeville.



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By Diana Lind

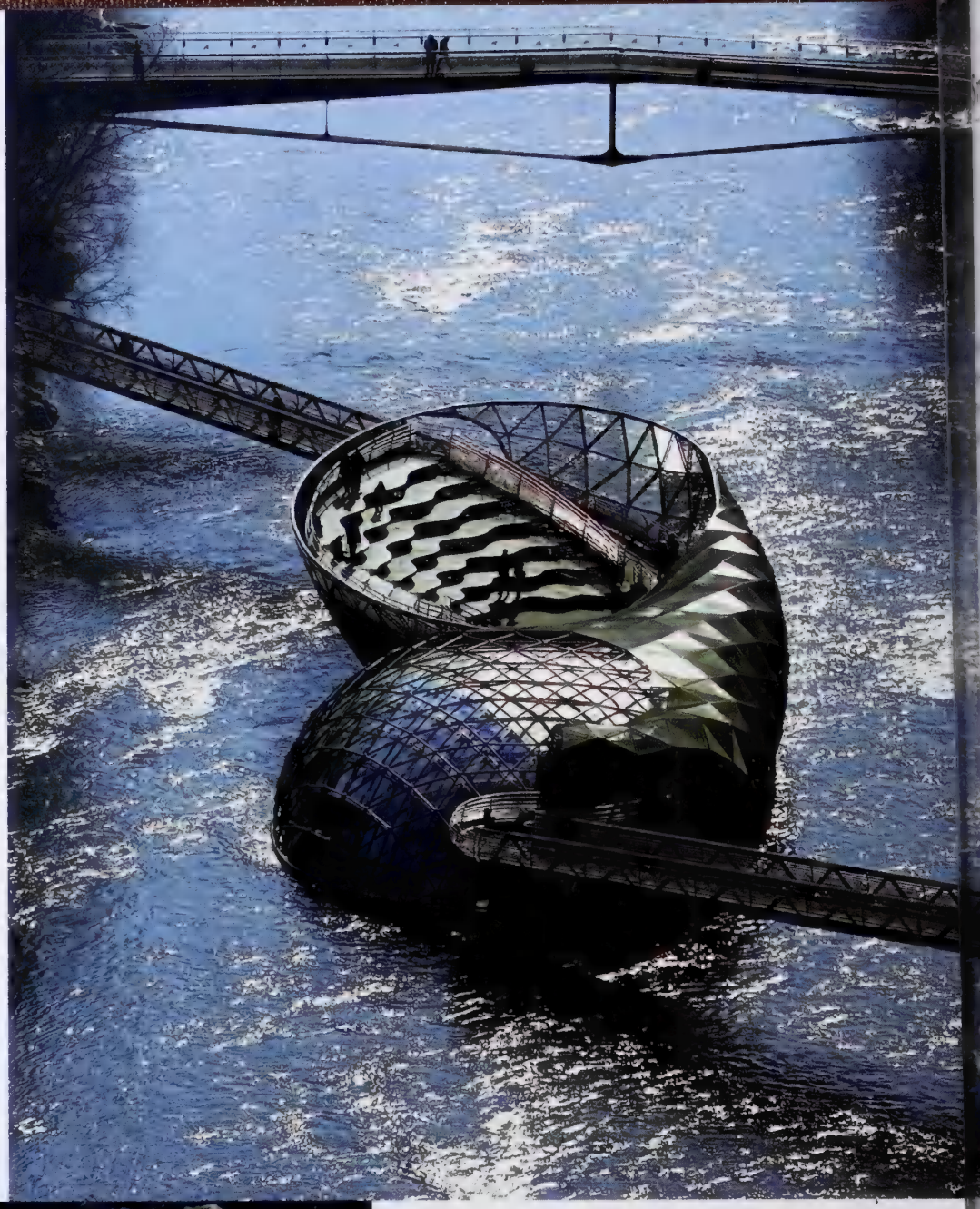
On the shores of the Mur, a steel and glass plaything

Vito Acconci's Island in the Mur defies definition. A convoluted mass of steel and glass connected to the banks of the Mur River traversing the city of Graz, Austria, the island houses an amphitheater, café, and playground, all of which flow into one another. Acconci is quick to point out his design's metamorphic qualities: "The functions are mixed, there's no hierarchy, no boundaries, no separation between inside and outside."

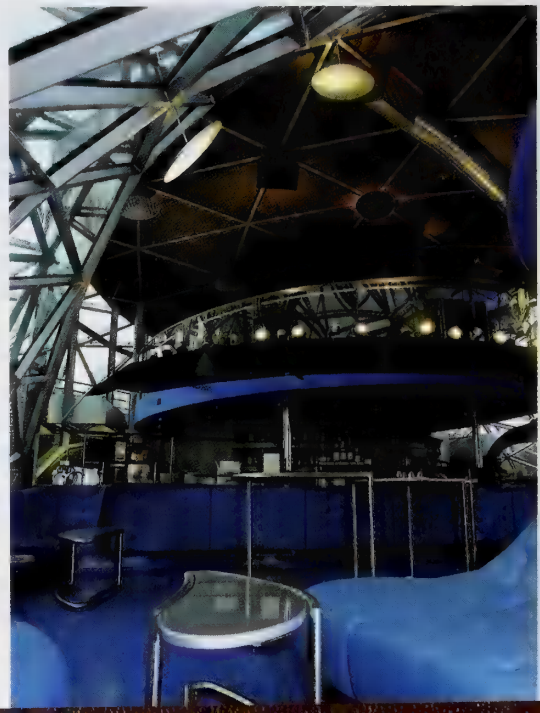
Acconci, a New York–born artist, revels in his disregard for limits. His career has evolved over several decades and includes successful stints as a writer, performance artist, and creator of video installations and participatory sculpture. Most recently, he formed an architecture firm, Acconci Studio, in New York City, which specializes in public-space design and has built projects ranging from a movable garden in Munich to a screened walkway in Tokyo.

The Mur River, long seen as a dividing line in Graz, became a focus of the city's attention when Graz began preparing for its yearlong celebration as the 2003 Cultural Capital of Europe. In 1999, Austrian art curator Robert

While the Mur River surrounds the island, its interior reflects the unstable, free-flowing nature of water. The winding corridors (below left) and the café's curvy furniture (below right) look like waves themselves.







Snapshot

Punkenhofer proposed the idea of creating an island that would unite the city and change citizens' perception of the river. Acconci was the natural choice for the commission, considering that some of the key elements in his work—movement and evolution—match Graz's own transformation from "Austria's second city" to a renowned center of contemporary art in its own right.

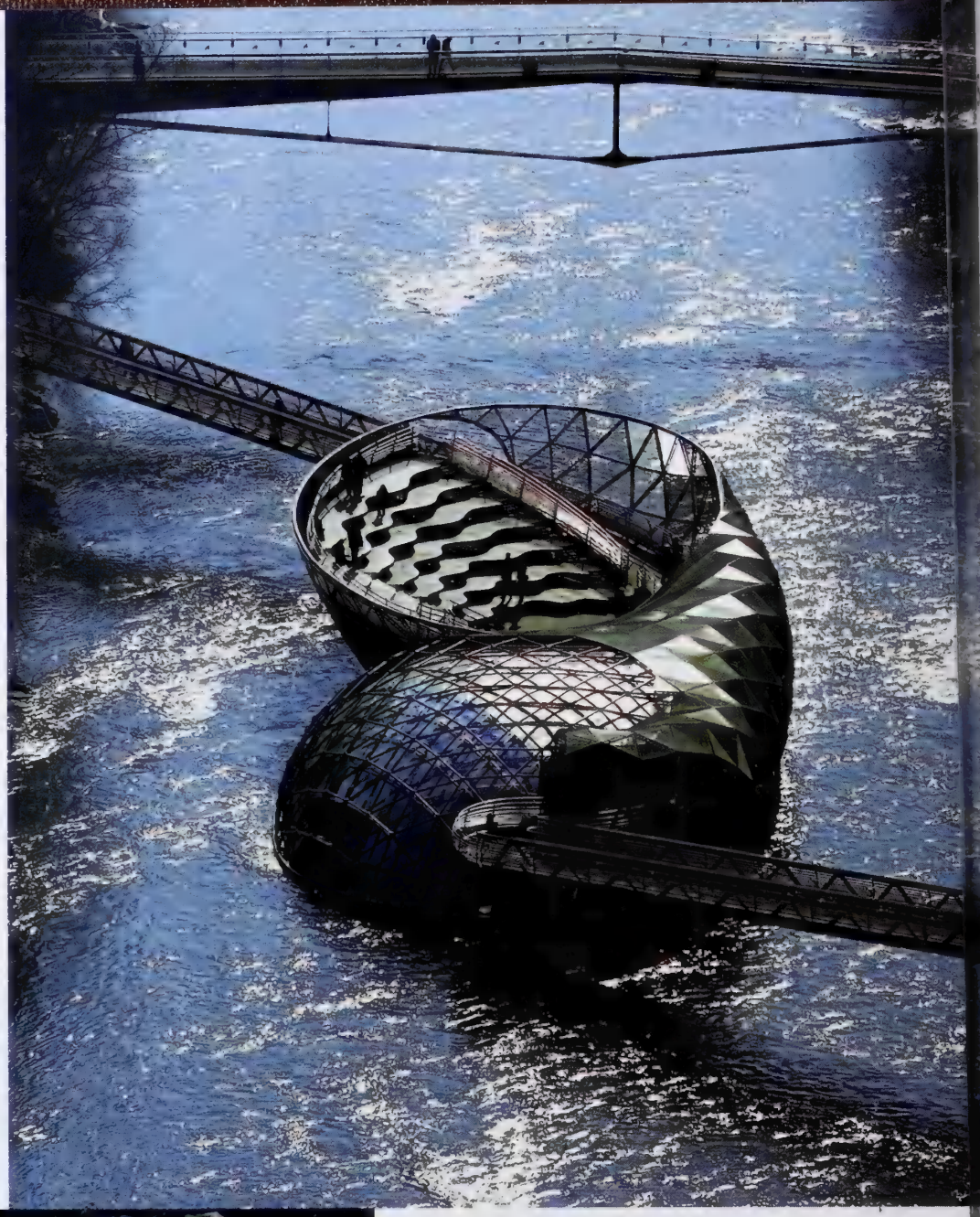
The island's two intertwined orbs, an open bowl and a closed dome, may contrast with Graz's traditional architecture, but they harmonize with nature. Acconci says, "We tried to make an island of water; on the one hand, it would literally carry water, support water—on the other hand, it would be as fluid as water." Originally, Acconci envisioned the island as a contiguous space from both sides of the river that could be entered from underneath the island. However, due to budget constraints, footbridges were used to connect the island to the city and lessened Acconci's goal of "continuity from riverbank to riverbank."

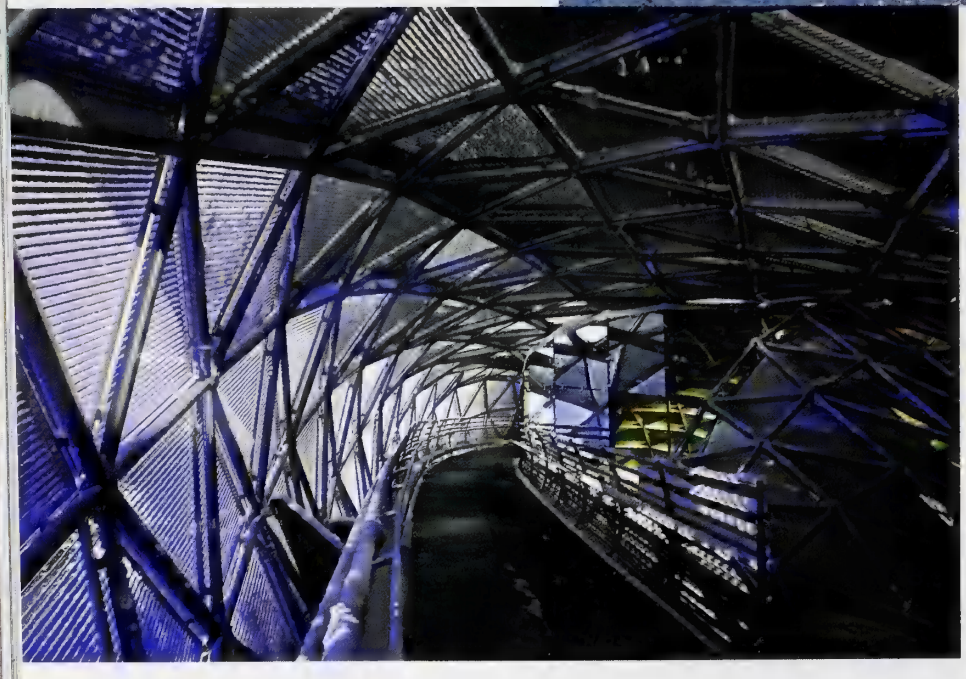
Within this undulating, 320-ton latticework construction, there are many intersections of activities. Visitors can grab a bite to eat, attend a concert, and let their kids amuse themselves, all at the same time or separately. As a new permanent landmark, the island has already enmeshed itself in the fabric of life in Graz and served as the performance space for many of the Cultural Capital festivities. As Acconci notes, "Once an architecture moves, then it becomes generative; it enters the field of biological processes, it grows the way a city grows." ■

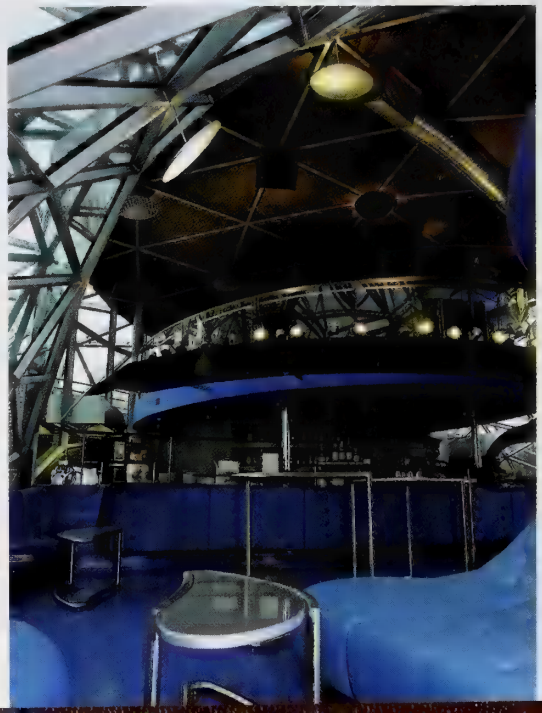
The island offers visitors a new vantage point for viewing Graz. The center of the city can be seen through peepholes in the interior and is reflected on the structure's stainless-steel surface.



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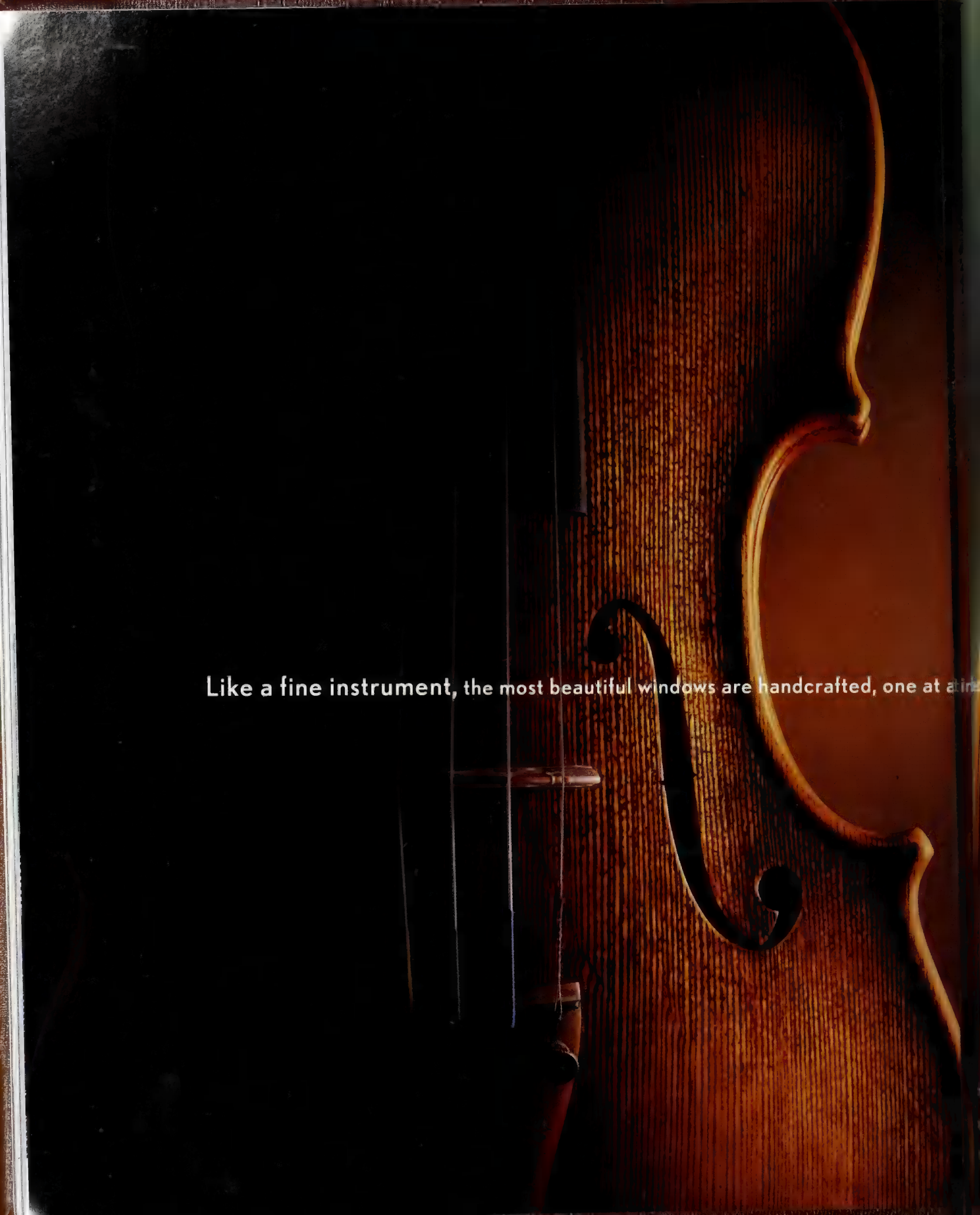
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The island offers visitors a new vantage point for viewing Graz. The center of the city can be seen through peepholes in the interior and is reflected on the structure's stainless-steel surface.




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Vulcraft 176-foot longspan double-pitched steel joists with arched bottom chords and 3" acoustical deck span the Carleton College Recreation Center.

The Carleton College Recreation Center in Northfield, Minnesota is a sports lover's place. The large column-free fieldhouse includes a six-lane running track; enclosing four courts for basketball, volleyball or tennis. Batting cages, long jump and pole vault pits, and a putting green round out the athletic offering.

Flexibility was a key component of this project. To accommodate the indoor track, the fieldhouse had to be uninhibited by support columns, braced frames and shear walls, or other obstructions. Aesthetics and economy were also major considerations.

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Using Vulcraft 176-foot longspan double-pitched steel joists with arched bottom chords, all of these requirements were well met, along with the need to pass 57″ mechanical ducts through the open webs, and to erect steel joists during a Minnesota winter.

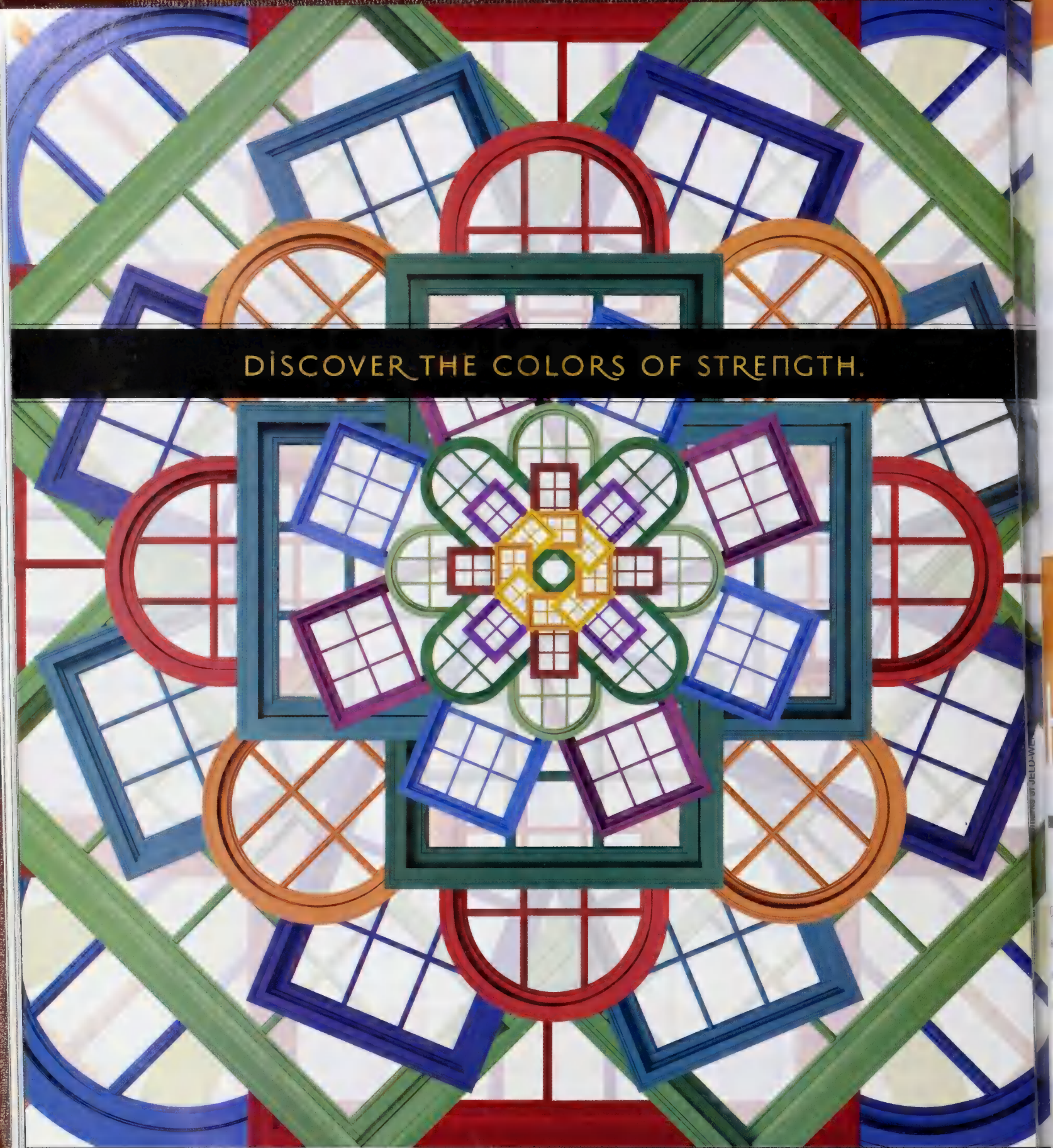
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American Institute of Architects

2003 Honor Awards

Architecture	p. 132
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25-Year Award	p. 168
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This year's AIA honor award winners offer a diverse feast of form, image, color, and light. To enrich our understanding, RECORD *solicited the views of expert critics Mark C. Taylor, Cynthia Davidson, and Greg Lynn. In their insightful commentary, we see considerable debate. Mark Taylor, an eminent scholar of philosophy and religion, speaks about architecture in relation to the emerging network culture of today. Cynthia Davidson, an editor, writer, and critic of architecture, comments on the obsession with image. Greg Lynn, an architect, teacher, and critic, addresses overall trends he discerns as a practitioner. Each observer focuses a particular lens on the subject, coming up with a singular view about architecture in a time of uncertainty.*

Architects today are faced with the uneasy task of looking forward in a time of volatile progress toward a new paradigm, while the lure of nostalgia keeps propelling us back to the past. This year's winners convey their message with clarity and imagination. Morphosis excels with three winning projects, each uniquely experimental. Rand Elliott is a two-time winner with his Modernist Snow Barn (a shed for plowing equipment) and a small print shop for the ImageNet company that uses copy paper for walls. Caples Jefferson Architects' Heritage Health & Housing, Rios Associates' primary schools, and Pugh Scarpa Kodama's Colorado Court apartments all reflect a fascination with surface through whimsical but practical facades. Lee Skolnick's and Brian MacKay-Lyon's industrial materials speak to the prevailing vernacular, and Richard Meier's and Steven Holl's geometric shapes are both innovative and monumental.

While our critics' discussions may help us recognize the complex forces at work in these projects, in the end we all form judgments based on our own likes and dislikes—and this year's winners provide a plethora of opportunities to do so.—Jane F. Kolleeny

ARCHITECTURE





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Federal Building and United States Courthouse
Central Islip, N.Y.
Architect: *Richard Meier & Partners, Architects; Spector Group [RECORD, October 2001, page 114]*

Part of GSA's design excellence program, this humane yet grand-scaled courthouse is sited to take advantage of panoramic ocean and bay views surrounding Long Island. A cone-shaped rotunda houses a nine-story-high entry of civic stature. Once inside, visitors pass into a 12-story atrium in the main rectangular volume of the courthouse, which contains the complex's administrative and judicial services and courtrooms.





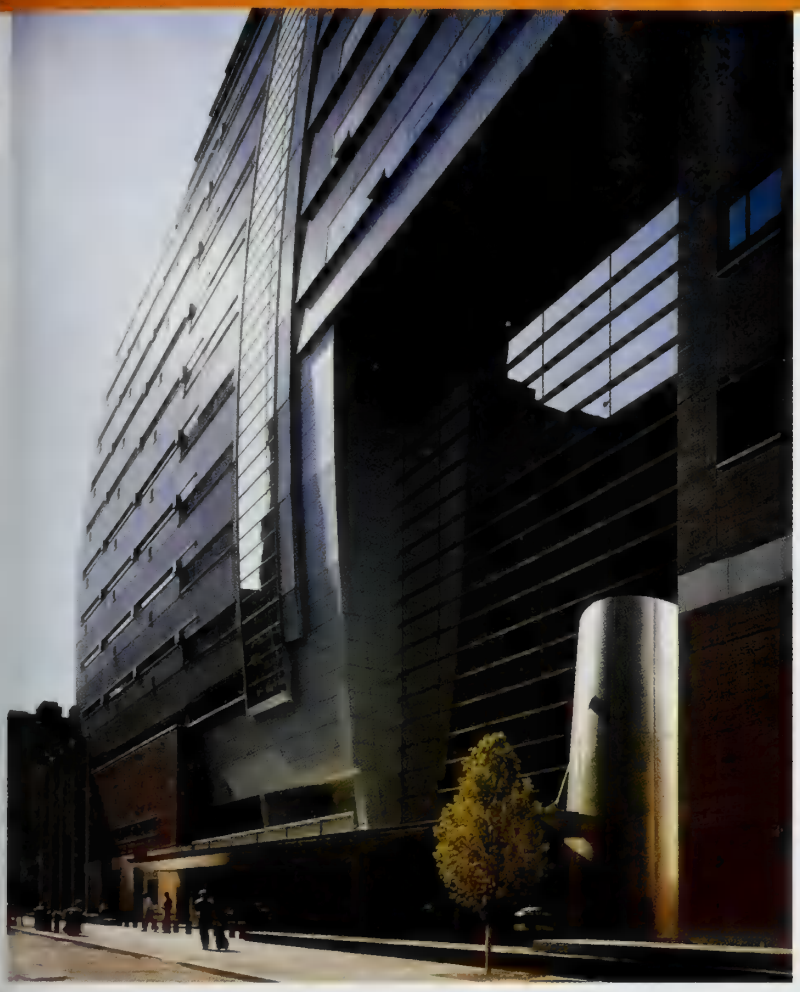
"The classic Modernist articulation of this building creates a proud and regal form, which need not rely on dated archetypes."



Mark Taylor argues that creativity can be found at the edge of chaos

Mark C. Taylor is the Cluett Professor of Humanities and Religion at Williams College, where he has taught since 1973, and Visiting Professor of Religion and Architecture at Columbia University. Taylor, who has a Doktorgrad (Philosophy) from the University of Copenhagen and a Ph.D. (Religion) from Harvard, published The Moment of Complexity: Emerging Network Culture *in 2002.*

An architecture that is critical for its time must point toward a future emerging in the present. Such architecture is visionary without being utopian. At the cusp of the 21st century, we find ourselves torn between new realities we do not yet understand and old faiths and ideologies that for many promise certainty and security in a world where they are disappearing.



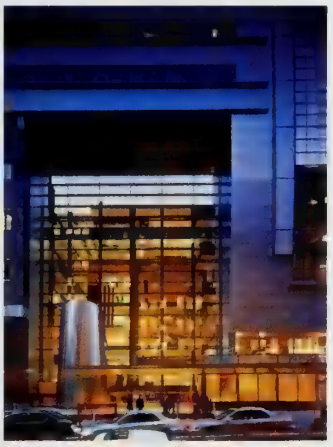
"Cracking open a densely developed building block, this progressive design provides safe, lively spaces for students and faculty."



New Academic Complex, Baruch College, CUNY
New York City
Architect: *Kohn Pedersen Fox Associates; Castro-Blanco Piscioneri (associate architect)*

This academic building occupies three quarters of a full city block and serves as the center of a new urban campus. It contains a great central atrium that runs north–south connecting the three dominant parts of the school—the business school, liberal arts college, and the shared social amenities.

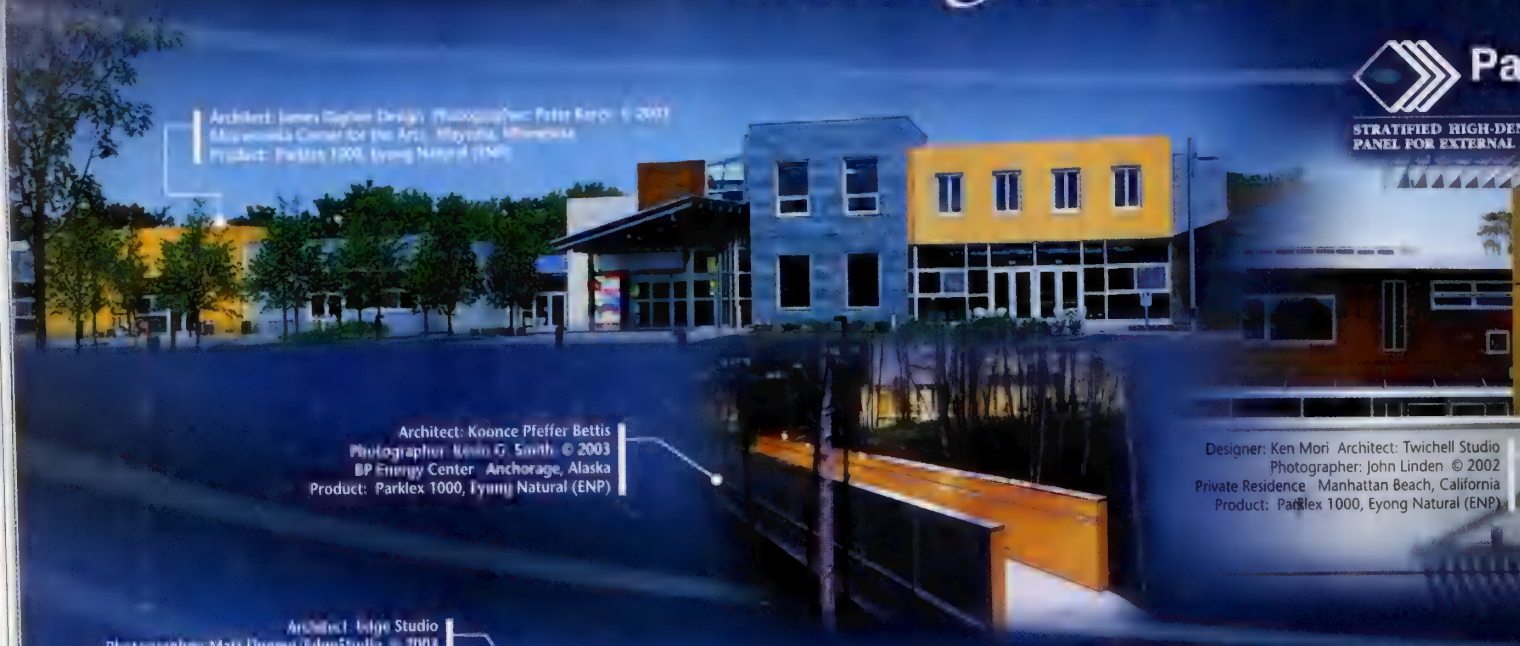




The trajectory of history is marked by increasing interrelations within and among physical, social, political, and economic systems. As connectivity spreads, instability and volatility quickly increase, and disorder threatens to erupt. Such disruption can be destructive, but creativity can also occur at the edge of chaos. The increasing interconnection that defines our era is most obvious in rapidly proliferating media, communications, information, and financial networks. In the way that the grid was intrinsic to Modernism and the industrial age, the network is the structure of an information society. Nonlinear, decentralized, open, and complex networks are not merely virtual; rather, the virtual and the real are braided together to form a new architectural logic beyond information-processing machines. One of the greatest challenges for architects is to create structures and systems that can adapt to constantly shifting sites of emergence.

The architectural projects the AIA has honored this year represent a diversity of styles and approaches characteristic of a period of significant transition. Some architects look back to trusted verities of Modernism, as if the world has not

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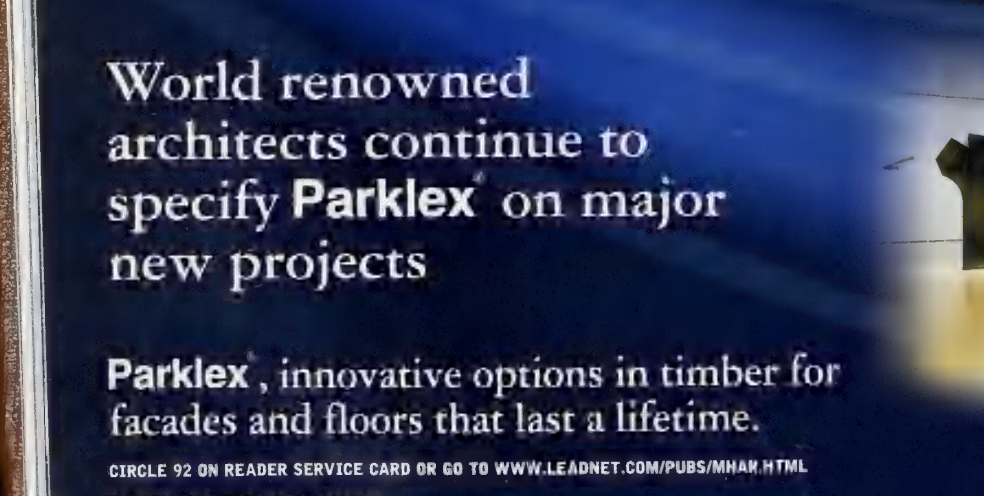
Designer: Ken Mori. Architect: Twichell Studio
Photographer: John Linden. © 2002
Private Residence. Manhattan Beach, California
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Architect: Edge Studio
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Edge Offices. Pittsburgh, Pennsylvania
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Architect: Frank O. Gehry
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COMPOSITES GUREA



Colorado Court
Santa Monica, Calif.
Architect: *Pugh Scarpa Kodama*

Even a modest residence of 44 single-occupancy units can exceed conventional standards as a model for sustainable living. This project provides well-designed, affordable housing on an urban infill site in the heart of this beach community's downtown commercial district, reinvigorating the area.







"The photovoltaic panels, rainwater collection, and shading systems are used to aesthetic advantage as integral parts of the architectural composition."

changed. The Will Rogers World Airport Snow Barn in Oklahoma City, by Elliot + Associates Architects, for example, represents an aestheticized Modernism bordering on the banal. In other cases, Modernism is tweaked without questioning its fundamental principles. Kohn Pedersen Fox's New Academic Complex for Baruch College, CUNY, in New York City attempts to soften Modernism's edge by replacing straight lines and right angles with clean curves and smooth slopes. The result is a building that looks more like a 1950s kitchen appliance than a campus of the 21st century.

Richard Meier and Partners' introduction of a cone-shaped rotunda as the entrance to its Federal Building and U.S. Courthouse in Central Islip, New York, is somewhat more successful in suggesting the potential relationship between curvilinear and rectilinear structures. Moore Ruble Yudell Architects and Planners' revision of certain aspects of Modernism in its Bo01 "Tango" Housing in Malmo, Sweden, effectively brings together the long-standing Scandinavian concerns with progressive public housing and environmentalism. The subtle interplay between interior and exterior spaces,

HOTTEST QUESTION IN THE INDUSTRY

If abandoned cable in a plenum is a fire hazard...

what are *new* cables in a plenum?

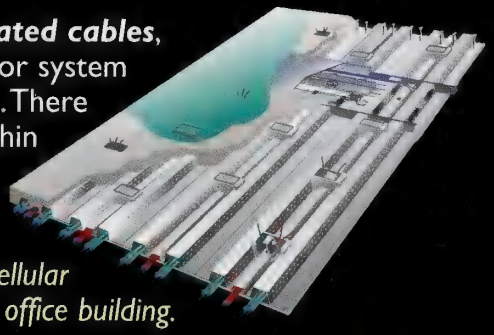
In 2002, both the National Electrical Code (NFPA-70) and NFPA-90A (an HVAC Standard) were revised to require the removal of all abandoned cables in ceiling and access floor plenums.

These revisions were based on the fact that plastics, the coverings on cables, are petroleum based and pound for pound have a fuel load similar to gasoline.

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Will Rogers World Airport
Snow Barn
Oklahoma City
Architect: *Elliott + Associates Architects*

This 18,000-square-foot structure is used for storage for airport snow-removal equipment. A secondary portion includes related offices, support functions, and mechanical space. Using standard, economical building systems, the architect transforms them into memorable building forms. The use of vertical elements, structural units, and color presents a kind of Zen approach to animating architectural design.



"The snow barn takes the simplest of forms and programs and turns them into a virtuosity of detail and consideration."

both within the complex and between the complex and its surroundings, achieves a rare sense of integration that extends beyond the merely functional. At a critical moment, however, the architects suffer a loss of nerve. An aversion to disruption has made significant innovation impossible. By thoroughly transforming or even destroying what has been, inventive design disturbs customary patterns and displaces established forms.

Since creative activity is unpredictable, its results cannot be calculated with certainty. Morphosis, which received three awards, has a very sophisticated appreciation for the growing complexity and volatility of our increasingly networked world. As communications systems and financial markets are wired, a new infrastructure takes shape that reconfigures long-established distinctions between space and place, the global and the local, and immateriality and materiality. For Morphosis, the interplay between the virtual and the real transforms physical structures in unexpected ways. The Hypo Alpe-Adria Center in Klagenfurt, Austria, effectively embodies the design of networks in its physical form. In this project, grid seems to morph

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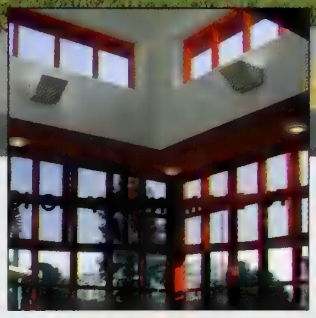




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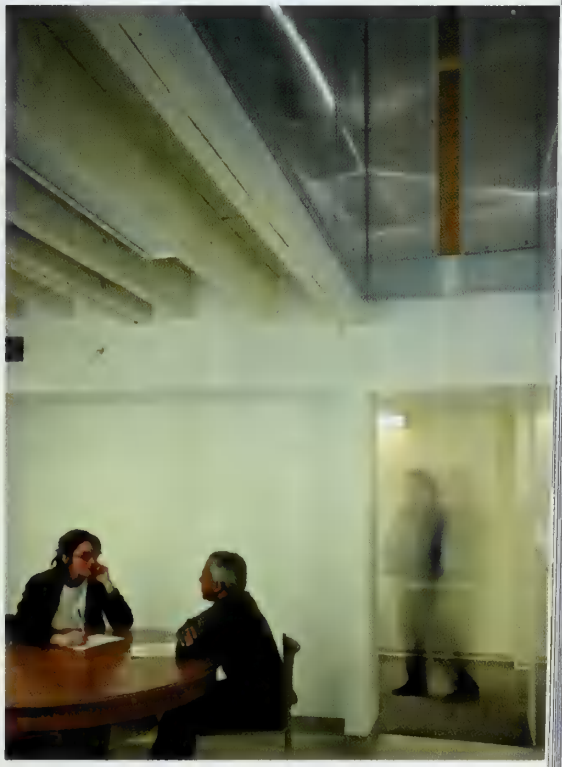
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Heritage Health & Housing
New York City
Architect: *Caples Jefferson Architects*

This modestly sized social services facility in Harlem features a colorful and inviting exterior and a cheerful, light-filled interior. The comfortable environment allows employees and the mentally ill and substance abusers they serve a place for reflection, repose, and the cultivation of hope.



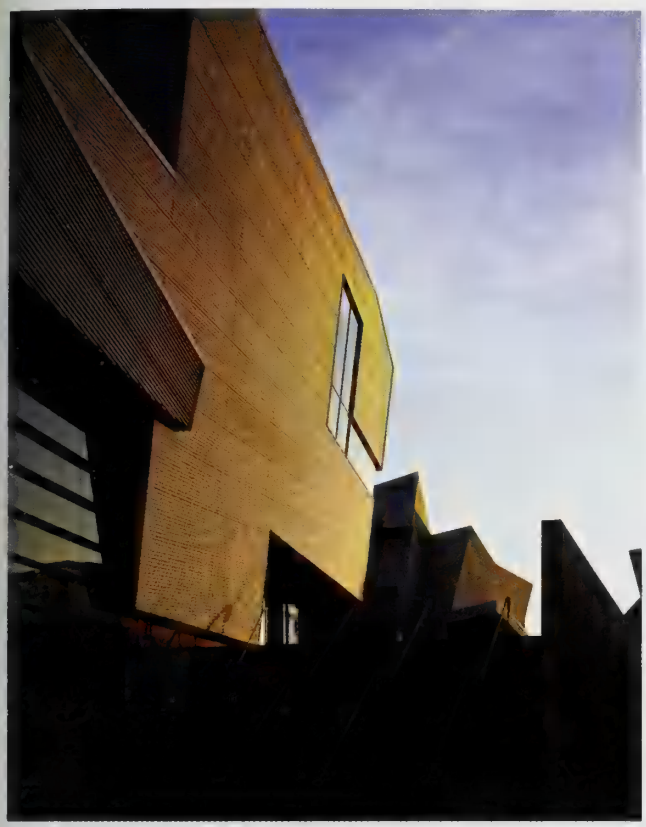
"The most limited resources have been evenly applied, resulting in a bright, colorful, activated piece of work and socialization."

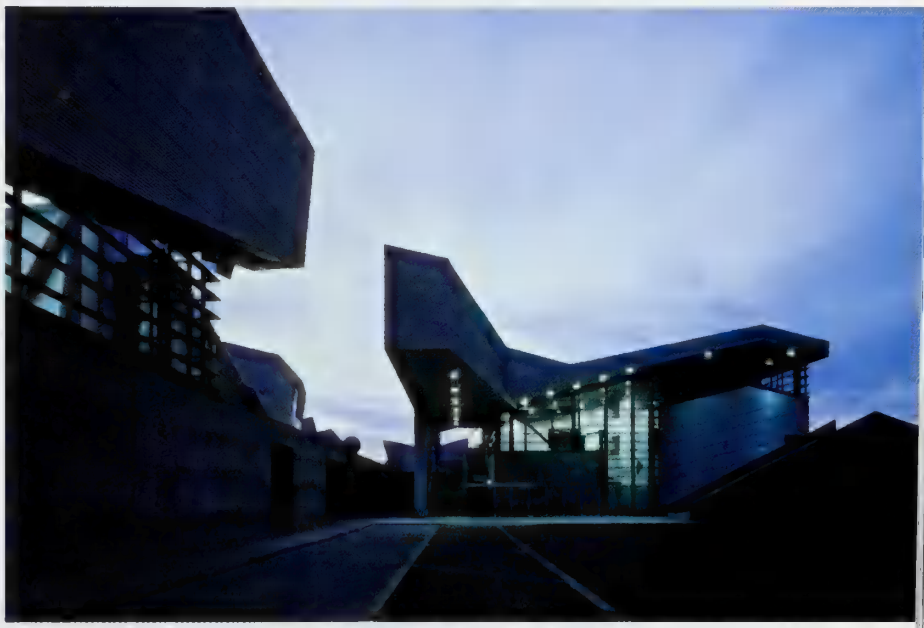


into network to create a decentralized structure whose lines are strangely nonlinear. The design for the bank's headquarters reflects a world in flux where Morphosis strives "to establish nodes of stability within turbulence." The result is a cacophony of forms and angles, which, like bits circulating in ether, generates a sense of suspension and even levitation. Layered grids cross and crisscross, achieving the effect of a network that seems to be surprisingly mobile. Rather than fixed and secure, this structure opens spaces for circulation in which flow and form remain in constant flux.

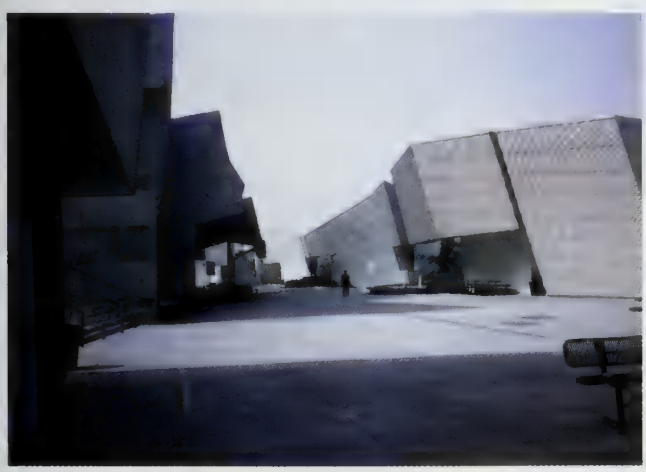
No architect better understands the importance of liminal space—that edge or border that separates and joins—than Bernard Tschumi. For more than 30 years, Tschumi has been exploring ways in which the space "in-between," as he describes it, generates novel forms. The Concert Hall and Exhibition Complex in Rouen, France, is one of his most successful works. Bringing together opposites usually held apart, Tschumi creates a complex building that is both provocative and productive. The horizontal, glass-and-steel exhibition wing and the curved steel cladding of the concrete


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"This building disproves all those who say that progressive architecture cannot be realized under the guidance of a public school budget."





Diamond Ranch High School
Pomona, Calif.
Architect: *Morphosis; Thomas Blurock Architects (associate architect)*

Buildings, athletic fields, parking lots, and open spaces are so successfully melded with the rolling topography that the school's organization emanates from the site. Cantilevered volumes project dramatically into space, and roofscapes fold and bend like shifting geologic plates. The plan defines three schools within the whole, facilitating more intimate teaching environments.

concert hall join to produce a complex whose lack of precise symmetry creates a space for the kind of spontaneous events that have long preoccupied the architect. The most intriguing aspect of the design is the overlapping envelopes surrounding the concert hall, with an inner wall doubled by a fragmented torus. Multileveled walkways cutting dynamically through the lobby are reminiscent of the Piranesian spaces in Tschumi's Le Fresnoy National Studio for Contemporary Arts in Tourcoing, France (1991). Though the complex is artfully integrated, it cannot be grasped as a whole because Tschumi has succeeded in creating a structure that is virtually all edge.

Like Morphosis and Tschumi, Steven Holl is fascinated by sites where borders become permeable. In Simmons Hall, a dormitory at MIT, in Cambridge, Massachusetts, he uses the image of a sponge to develop a new building morphology. The boundaries separating inside from outside as well as the vertical and horizontal dimensions of the project are porous. This porosity forms a complex structure in which walls not only divide and separate, but also connect and relate so that

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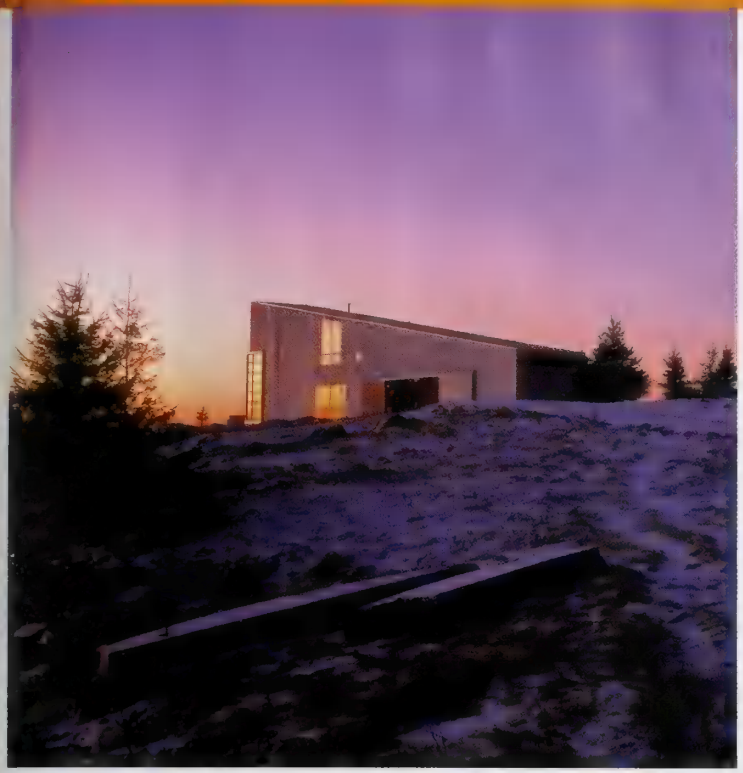
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Howard House
West Pennant, Nova Scotia, Canada
Architect: *Brian MacKay-Lyons Architecture Urban Design*
[RECORD, April 2000, Page 108]

This modest house sits in a field surrounded by sea on three sides, facing a bay that flanks a small village of clapboard houses. Designing with utilitarian building materials, the architect responds to the local vernacular and prevailing harsh weather.





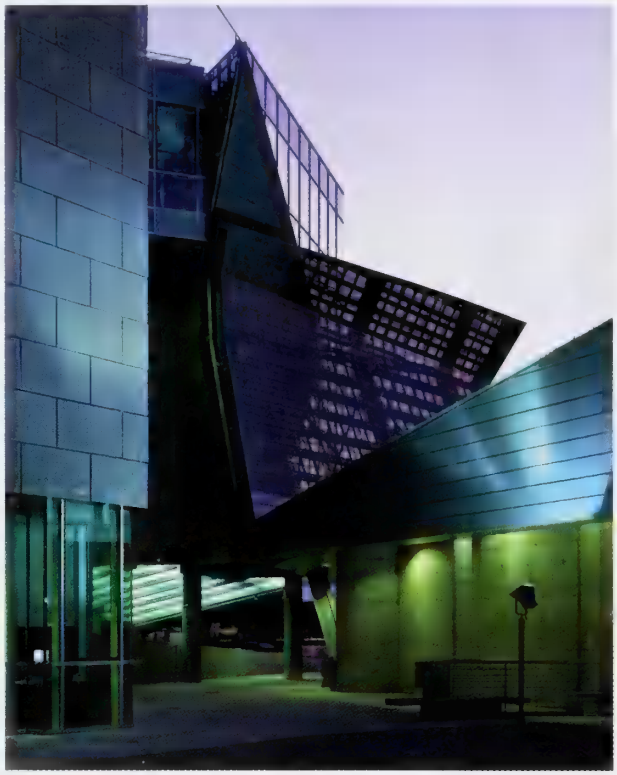
"The tectonic of construction, a beauty of the vernacular, and a purist sense of shelter are all part of this enchanting home."

communication among internal spaces, as well as between inside and outside, becomes possible. In contrast to the stasis of the exterior grid of Holl's Simmons Hall, the interior sculptural spaces create a sense of vitality and flow characteristic of living organisms. The way in which biomorphic spaces emerge within the structure of the grid suggests how digital programs generate artificial life, artificial intelligence, and information organisms that are virtually alive.

Since the 21st century will be a world of webs rather than walls, every kind of boundary and border will have to be recast or renegotiated. Far from merely fashioning new visual metaphors for the 21st century, architects must actually create new kinds of spaces with different organizational and operational logics. When long-separated places and systems become connected, the edge of chaos will become the placeless place we are destined to inhabit. In a period of uncertainty and anxiety, it is reassuring to know that some of our best architects are developing maps to help us navigate a strange new territory, one that surely will be as baffling as it is exhilarating. ■

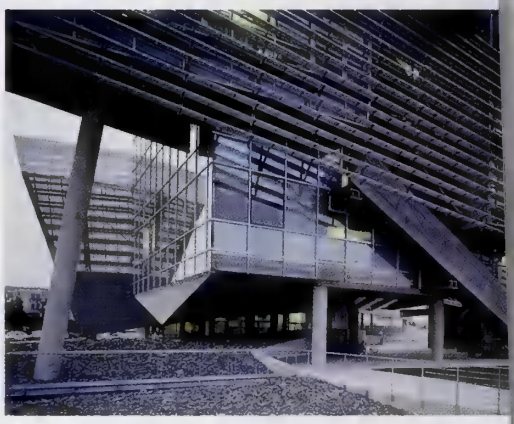
"A porous collection of architectural volumes and forms responds to the moderate density of the surrounding suburban landscape."







Hypo Alpe-Adria Center
Klagenfurt, Austria
Architect: *Morphosis*



Designed as a civic icon for a mid-size city in the southern part of Austria, this banking facility responds to its roadway-dominated environment in a complex, sculptural way. Pedestrian movement under and through the building allows assimilation of the site into the suburban pattern. The Minimalist interior combined with exterior finishes create an eclectic mix of moods and volumes.

PHOTOGRAPHY: © KIM ZWARTS (1 FET TWO); FERDINAND ALTHAMER (3)



Cynthia Davidson notes that image and surface-effect dominate awards

Cynthia Davidson is an architecture writer and editor in New York City. She directed the Anyone project of conferences and publications on architecture from 1991 to 2001 and founded ANY (Architecture New York) *magazine in 1993. Prior to coming to New York City, Davidson was the editor of* Inland Architect, *in Chicago, and a Loeb Fellow at the Harvard Design School.*

If there are few surprises among the AIA Honor Awards this year, it is because readers of design magazines are already familiar with the projects. From Bernard Tschumi's concert hall in Rouen, France, to Morphosis' Diamond Ranch High School in Pomona, California, images of the "*salle de spectacles*" and the angular school have already instilled in us the idea that these projects

3rd & Benton/7th & Grandview Primary Centers
Los Angeles
Architect: *Rios Associates*

Developed and adapted to two sites, this design of a prototypical primary center for K-2 students was undertaken to reduce overall class size. Using common industrial construction materials, each school, while formally identical, is distinct in its bold graphic expression. Classrooms are paired to allow for window exposure on three sides. Landscaped courtyards provide security and flexible outdoor spaces.









"These projects delight the eye, create a wonderful neighborhood scale and exterior spaces, as well as celebrate the texture of the surrounding context."

are designs worthy of distinction—or at the minimum, provide images worthy of dissemination.

Whether there is a direct link between media exposure and professional recognition cannot be proved here, but media judgment may suggest that surface, material, and form are more compelling than space, if only because space cannot be adequately captured by the image. It can only be apprehended through actual physical experience. Ironically, to prepare this article, I was only able to look at images—that is, photographs and drawings of buildings.

The importance of image in this year's award-winning projects is seen in work as small as Caples Jefferson Architects' Heritage Health & Housing office in New York City, and Elliott + Associates' ImageNet office in Oklahoma City. The first makes the most of "crude construction" and applies a patchwork of color to a flat exterior to enhance, or disguise, an otherwise workmanlike organization of space.

Elliott + Associates created an image for the ImageNet printing company by using reams of paper to make a three-dimensional texture on

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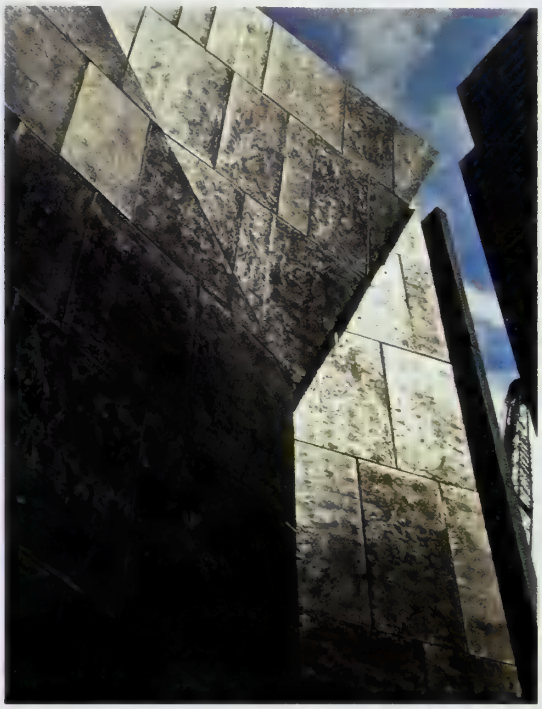
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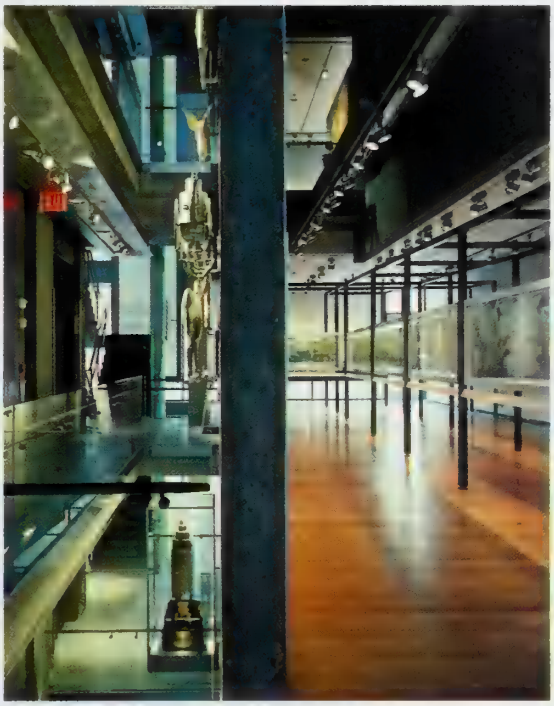
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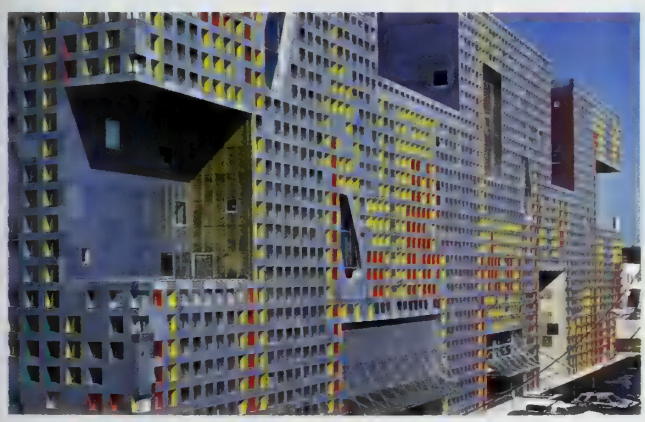
"An intricately woven fabric of intimate, vertically organized spaces accommodates users with multiple movement paths."





American Folk Art Museum
New York City
Architect: *Tod Williams Billie Tsien Architects; Helfand Myerberg Guggenheimer Architects (associate architect)*
[RECORD, May, 2002, page 202]

This narrow, eight-story museum is capped by a skylight above a grand interior star. Openings at each floor allow light to filter into the upper-floor galleries and through to the lower levels, where a store, café, auditorium, classroom, office, library, and archive reside.



"A project of enormous power that questions the urban landscape at the same time it questions normative ideas of interior space-making."



Simmons Hall, MIT
Cambridge, Mass.
Architect: *Steven Holl Architects; Perry Dean Rogers & Partners (associate architect) (page 204)*

This daring, 350-room dormitory is one of the first steps in the development of the MIT campus along Vassar Street. The building was conceived as a porous, 10-story volume interconnected by social gathering spaces. It explores a variety of unexpected architectural ideas involving scale, color, and light.

the walls. While this amuses the eye, it does not affect the space (though one may not be inclined to lean against the wall). Transparent walls with typographic overlays give some perceptual depth to the working areas, but the typography is so dense that the intent is clearly more decorative than spatial, more about surface than depth, more about the eye than the body.

Layering also appears in Pugh Scarpa Kodama's Colorado Court apartments in Santa Monica, California. Here the "decoration" on the exterior of an otherwise ordinary low-income apartment block is also a technological investment: bright blue solar panels that store the energy used to power the building. This clever display of program through the placement of materials also feels like an attempt to take the mystery out of technology, to lay out the innards the way Apple Computer's translucent iMac provides a glimpse of the gizmos that make bits and bytes happen.

This exposure is far from a new idea. Mies van der Rohe attempted such "honesty" on the exterior structure of his Lake Shore Drive apartments in Chicago (1948–51). But a careful look



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"Displaying a complexity of architectural form, lifestyle, and technology, this emerges as the most adventurous of the Bo01 projects."

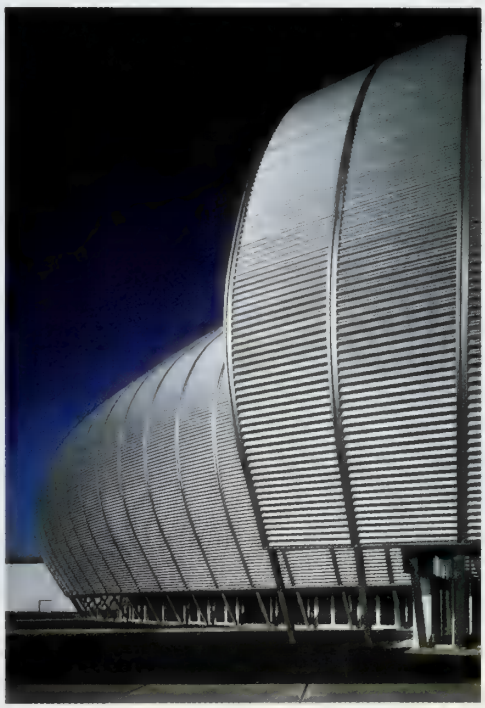


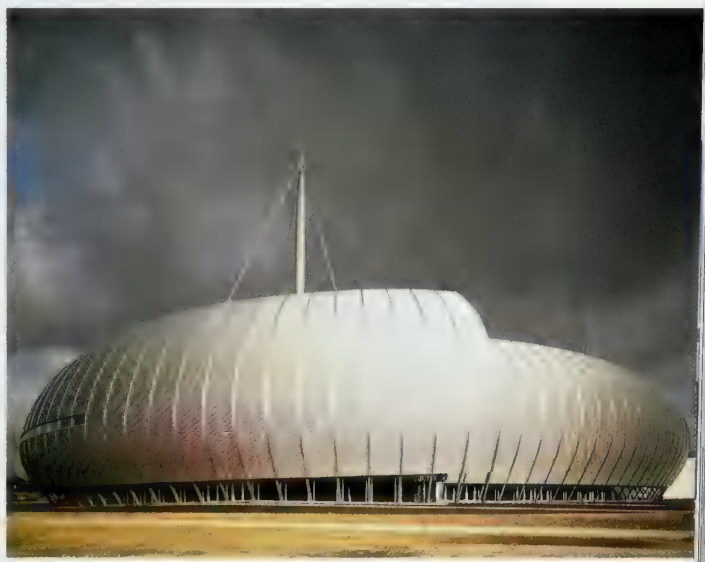
Bo01 "Tango" Housing
Malmö, Sweden
Architect: *Moore Ruble Yudell Architects & Planners; FFNS Arkitekter (associate architect)*
[RECORD, February 2002, page 156]

One of 15 multifamily housing projects that compose the first phase of development, this sustainable, low-rise project takes advantage of a publicly sponsored housing exposition to explore new arrangements for apartment living in northern climates. A collaboration between American and Swedish firms, it combines openness to light, landscape, and flexible living with a commitment to industrial materials.

Concert Hall and Exhibition Complex
Rouen, France
Architect: *Bernard Tschumi Architects*
[RECORD, June 2001, page 102]

Rising from a clearing in a highway-dominated suburban landscape, the 7,000-seat concert hall responds elegantly to its open site and public function. The commercial metal siding and curving vertical trusses of the lobby form a visual foil to the huge, flat-roofed, long-span box that houses the performance area. Inside, the stepped seating and performance floor can be subdivided and transformed by movable seats and curtains suspended from catwalks above.



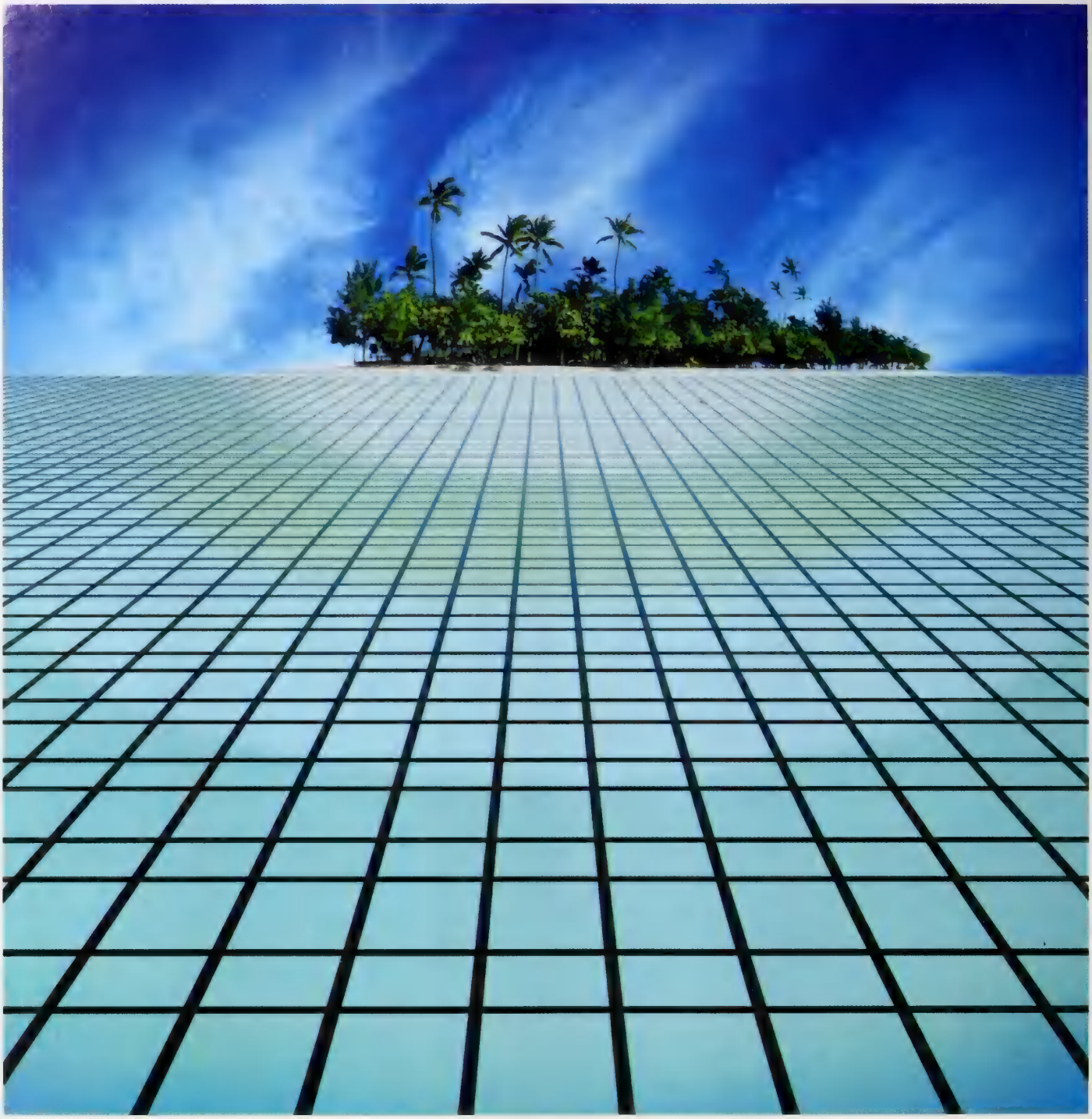


"The great rounded surface hovers delicately above the ground plane, an icon in the landscape."

beneath the curtain wall revealed the lie. The steel wasn't structure, it was decoration. While the solar panels are both real and decorative, the walls at ImageNet are not made of paper, and the folded and slipped aluminum forms in Valerio Dewalt Train's Gardner-James Residence in New York City are not the ducts that they resemble. They are industrial chic. Does this fact make the space any more or less pleasing to the eye? Any more or less accommodating for the user? No. Because we live in an age of contrived reality that emanates from our televisions, computers, periodicals—and, yes, our architecture.

Back when Wiley Coyote set traps for the Roadrunner, his creators relied on the viewer to unconsciously project the depth of three-dimensional space onto the 2D cartoon to make Wiley's antics more humorous. Today, space is collapsed into the time it takes to bring up a Web site and its invisible depth of information. There is no need for spatial projection or even spatial imagination. Instead, the viewer's complete experience is with surface.

If the superficial has become a satisfying



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"An important contribution to the preservation of midcentury Modernism that imparts a new beauty to a landmark building."



Lever House Curtain-Wall Replacement
New York City
Architect:
Skidmore, Owings & Merrill; Gordon H. Smith, P.E. (engineer of record)

This 24-story corporate headquarters, with a facade of blue-green glass and stainless-steel mullions, was one of the first glass-walled International Style office buildings in the U.S. Designated as a national historic landmark in 1992, the building's deteriorated steel subframe has been replaced with concealed aluminum glazing channels—a state-of-the-art solution in modern curtain-wall technology, yet it remains identical to the original facade in appearance.

Boston Public Library, Allston Branch
Allston, Mass.
Architect: *Machado and Silvetti Associates*
[RECORD, January 2002, page 86]

This community library is carefully sited to emphasize its role as a civic building without overwhelming its residential neighbors. Exterior materials include slate panels and shingles and unfinished wood cladding. Large windows on the street and in the courtyards provide ample daylight to the interior.





"The scale of the building and the rich and varied palette of materials allow this library to reside comfortably within the landscape."

experience, it is no longer clear whether the layers of the Web are emulated in architecture or vice versa. What separates type on a screen from type on ImageNet's glass walls other than space? Architecture's domain is still space, but architects today seem to be promoting sign and image over space at the risk of losing the "media" wars.

Recently I was asked whether the *Deconstructivist Architecture* show at the Museum of Modern Art (MoMA), in New York City (1988)—itself a form of media—had had any long-lasting effects. If the philosophical concept of unpacking the truth was met with outrage (on some fronts), the architectural forms in the exhibition clearly made a long-term stylistic impression. Among the award-winners this year, the most notable evidence is Kohn Pedersen Fox's (KPF) "interior campus" for Baruch College in New York City. A few years removed from KPF's clearly "decon"-styled IBM World Headquarters in Armonk, New York (1997), the mid-rise is an amalgamation of fashionable materials and shapes most probably argued as "contextual." The only *(continued on page 380)*

INTERIORS

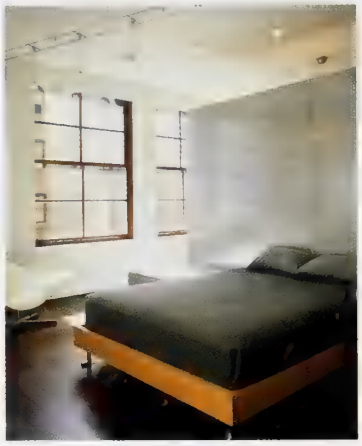




Gardner-James Residence
New York City
Architect: *Valerio Dewalt Train Associates*

Located in a six-story industrial loft building, this apartment utilizes four metal folds as its movable walls, floors, ceiling, and storage areas. This surprising use of ductwork shows how such a utilitarian material can define the discrete areas of a residential space, as well as become a unique form of art.





"An alien insertion that's evocative and mysterious; there's an element of discovery that dominates the space in a positive way."

PHOTOGRAPHY: © STEVE HALL/HEDRICH BLESSING PHOTOGRAPHY



Greg Lynn outlines a series of trends seen in various awards

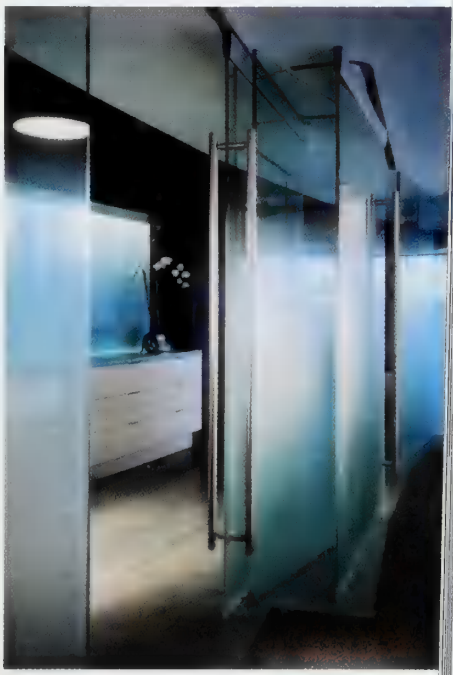
Greg Lynn is the principal of Greg Lynn FORM, in Los Angeles. He teaches at the University for Applied Arts in Vienna, is a studio professor at UCLA's School of Arts and Architecture, and the Davenport Visiting Professor at Yale's School of Architecture. Lynn has two bachelor's degrees, in philosophy and in environmental design, from Miami University of Ohio (1986), and an M.Arch. from Princeton University (1988).

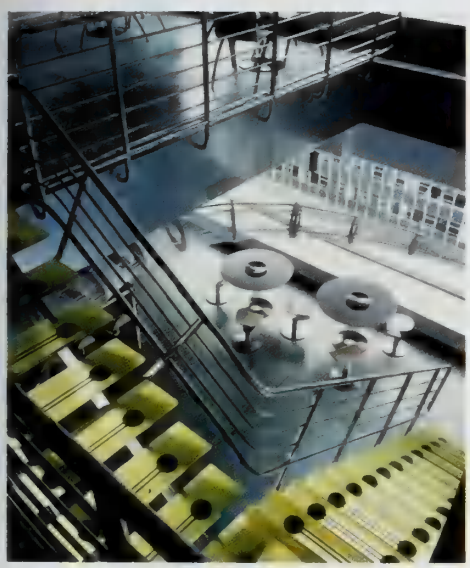
In moments such as these, when the architecture profession rewards itself for greatness through these prizes, and we outsiders are brought in by a magazine to comment on the results, what should we do? Perhaps we serve the community best by simply making gross generalizations and observing tendencies or trends we see in the pre-miated architectural work.



Global Crossing Corporate Headquarters
New York City
Architect: *Lee H. Skolnick Architecture + Design*

Designed to project an extremely forward-looking identity, these offices embody the tenets of connectivity, speed, security, and cutting-edge technology. Stripped to a bare minimum, the design adds back only what was required to express the spirit and function of a Minimalist work space.





"A corporate space that brings together New Age materials, fiber optics, and plastics to provide luminosity to an otherwise dark shell."



Thankfully, the interest in warmed-over Modernist architecture for institutional or corporate brands is fading. That said, the one exception to this view is Richard Meier's courthouse in Long Island. It has been so tweaked and tuned that it bears as much resemblance to Corbusian Modernism as Billy Gibbons's chopped low-rider "Cadzzilla" has to a stock 1948 Cadillac. Meier's courthouse is too tricked out with aftermarket customization to be "Modern." But since I prefer the chop-shop to the authentic antique-shop version, I am impressed with the direction Meier's work is taking.

Morphosis's Hypo Alpe-Adria Center in Austria, takes the customization of Le Corbusier's block typology for the Salvation Army in Paris (1930) to heavy-metal extremes. While remaining compositionally controlled in its articulation of stair, signage, and structural elements with the building skin, the project assumes many risks. It is highly fragmented formally, without a strong sense of frontality. It doesn't say "bank." Instead of being monolithic formally or materially, it is variegated and busy. Yet Morphosis's Thom Mayne does pull it all together. The work is not fetishized and over-

Collins Gallery
Los Angeles
Architect: *Patrick J. Tighe, AIA*

Combining the public function of an art gallery with the domestic components of a home, this remodel of an existing structure accommodates the need for privacy as well as room for large gatherings. A new wall bisects the building on the diagonal, creating two distinct zones for gallery and residence. Clerestory windows serve as the main light source in the gallery, eliminating the need for additional windows and maximizing wall surface for art. Sliding partitions of glass close off the domestic zone from the gallery.









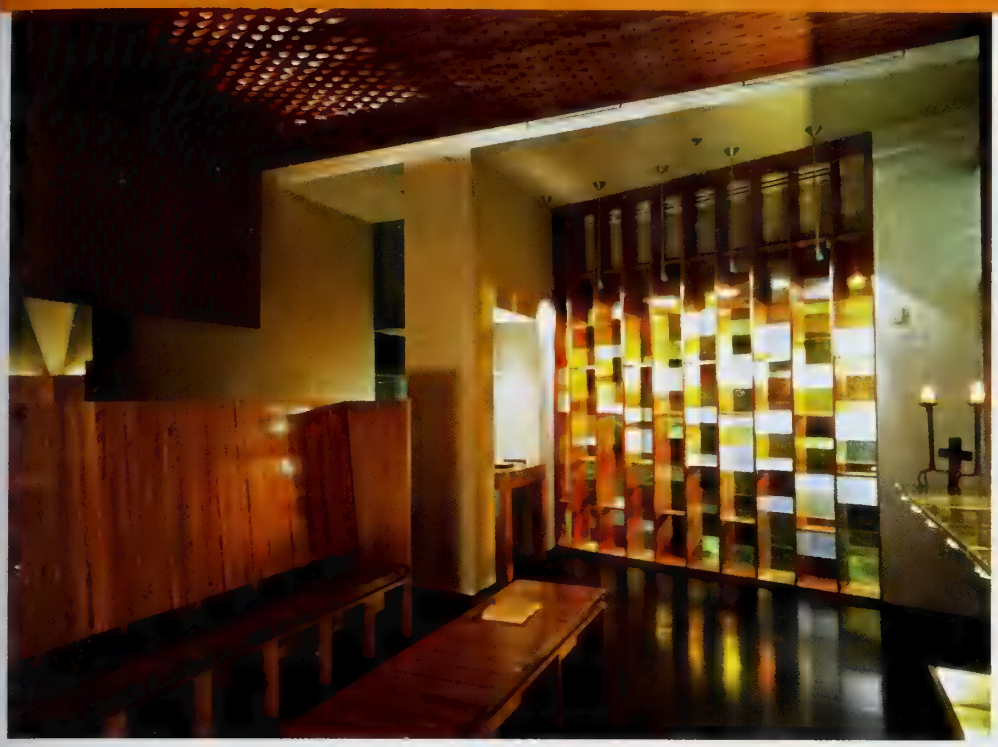
"The unusual geometry of the plan works beautifully for living among the works of art."

PHOTOGRAPHY: E. ART GRAY

fragmented—for Mayne makes the shifts from small-scale to large-scale work very well. His projects retain their sense of experimentation even at this institutional scale. In fact, the larger-scale designs are often far superior to more pristine small-scale stuff. Mayne also gets extra mileage from off-the-shelf components, so that they look highly crafted.

Another trend seen in some award-winners is an interest in geologically shaped and constructed spaces, facilitated by a combined research into materials and the advent of new tools for drawing and designing. For example, the American Folk Art Museum in New York City, by Williams and Tsien, is a profoundly geological project, both in the dense sedimentary layering of spaces within the structure, as well as the more literal cladding of its facade with tombasil metal. Another example is Simmons Hall at MIT, by Steven Holl, where a series of interior spaces evoke those of the infamous Narrows in Zion National Park, in Utah.

The last three projects all represent a culmination of years of personal research by the



Kate and Laurance Eustis Chapel
New Orleans
Architect: *Eskew+Dumez+Ripple*

This small chapel is designed to serve the contemplative and spiritual needs of Ochsner Hospital's patients, families, and staff. Because the chapel is interdenominational, the architect developed an ecumenical design. The use of wood implies tactile warmth, creating a protective shelter over the main seating area. Water is introduced in a manner that alludes to its healing, life-giving properties. The subtle use of light, scale, proportion, and materials enhances the feeling of sacredness.

"Historically, light has been featured as dominant in spiritual architecture—this project carries on this tradition in a new and fresh way."





chitects, spurred by new technologies of design d construction. Some other award-winning ojects create spatial effects by means other an form or materials, as can be seen in the shift ward two-dimensional imagery. Although Venturi id Scott Brown laid out the argument decades go, the increasing presence of graphic designers n any number of architectural teams (Bruce Mau, 2x4, Imaginary Forces, Rebeca Mendez, to name a few) is profoundly affecting architectural design. The two Primary Centers, by Rios Associates in Los Angeles, are both tagged with Keith Haring– and Tofer-like graffiti. Graphic design creates the individual identities of schools within their specific neighborhoods. This prototype, now realized at two addresses, is a very contextual response to the actual graffiti covering buildings in the Santa Monica area, where they are located.

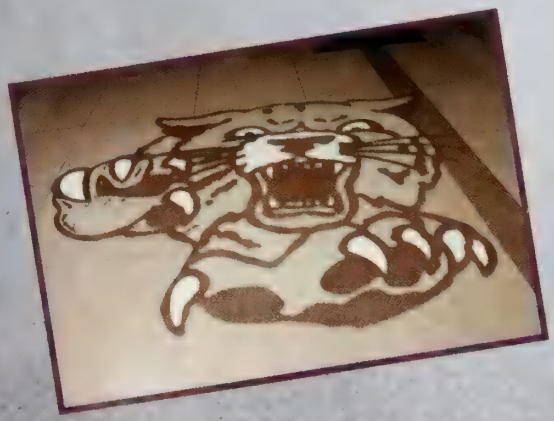
In the Heritage Health & Housing project, by Caples Jefferson, a vernacular patchwork of mosaics is combined with translucent plastic panels. Obscured, variegated light sources add to the cloudy atmospheric quality of the plastic. The ImageNet project by Elliott + Associates literally

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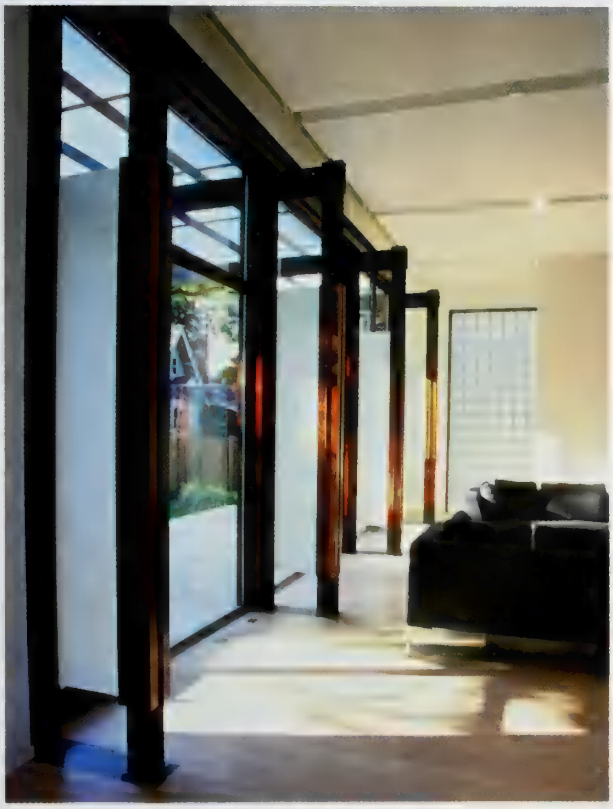
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Martin Shocket Residence
Chevy Chase, Md.
Architect: *McInturff Architects*

A one-room, 1920s former photographer's studio has been renovated to link with an existing house on the site. The design opens up the connection between the two buildings, giving the resulting family room seen here a Modern aesthetic that contrasts and complements the existing house.



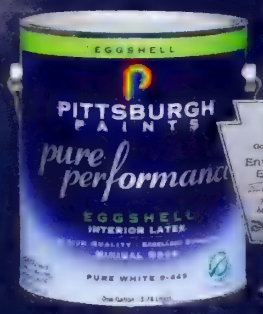


"Every square inch has been thought through in this remarkable transformation of a single, characterless room."

uses books as a construction material and type laminated onto walls for enclosing planes. While these projects are commendable, they lack the viable theoretical or social agenda typical of Venturi, Scott Brown's work.

Is there perhaps a future in plastic? The shift from a Modernist transparency to various forms of translucency is characteristic of the Japanese sensibility, as epitomized in the work of Kazuyo Sejima of SANAA, Toyo Ito, and Tokujin Yoshioka. And we see aqueous, cloudy, translucent—the translucence of plastic rather than glass—planes expertly incorporated into many projects. Another project demonstrating an interest in the spatial effects of new materials is the Global Crossing Corporate Headquarters in New York City, by Lee H. Skolnick Architecture, with its luminous fabric snake light.

Several award winners used conventional materials in unconventional ways: witness the flowing, folded, corrugated, pixilated, arabesque screens; modulated, textured surfaces; and curving voluptuous forms of projects such as the Lutèce restaurant in Las Vegas, by Morphosis; the Kate and Laurance Eustis Chapel, by



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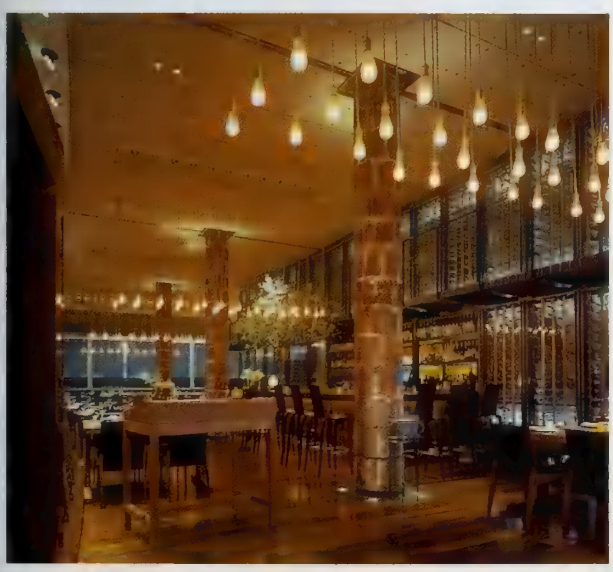


"The integration of illustrations and models is handled with intense care, making the whole fit together like a wonderful puzzle."



***The Architecture of R.M. Schindler* Exhibition Installation at MOCA**
Los Angeles
Architect: *Chu + Gooding Architects*

This modestly priced installation design challenged the architect to create a tactile and spatial backdrop to view the various formats of Schindler's work. The design evokes the spirit of experimentalism in Schindler's work in a subtle way and mitigates the contrast of the large scale of the galleries with the small-scale art in the exhibition. The designer also created a display system that brings coherence to the varied formats of the work.



"As hard as I think, I keep coming back to just one thought about this space—it is very, very romantic."



Craft
New York City
Architect: *Bentel & Bentel Architects/Planners*

A dilapidated former department store built in 1886 has become home to this modest-size restaurant, spread out over the first floor and cellar of the existing building. A simple yet texturally rich interior integrates with the food and service functionally and metaphorically. Within the long, narrow space, a rectilinear steel and bronze wine vault, a curved walnut-and-leather-paneled wall, a dramatic triptych on the back wall, terra-cotta-clad columns, and amber-hued, bare-bulb chandeliers enliven the space.

Eskew+Dumez+Ripple, in New Orleans; and the *Architecture of R.M. Schindler* exhibition installation for the Museum of Contemporary Art, Los Angeles, by Chu + Gooding. Wood, cardboard, plaster board, and masonry were often put to unique uses. The innovations in masonry bonding along with a renewed exploration of this technique shows that lessons have been learned from the fetishistic marquetry of the Southern California architects in the 1980s and '90s. Yet the interest in new combinations of materials can result in a kind of banality if not infused with a structural or formal agenda. Machado and Silvetti's branch library in Allston, Massachusetts, demonstrates that these concerns combined with a neighborly contextualism are not enough to make an interesting midsize building. The virtuoso detailing is inexplicable except as an expression of the will to endlessly articulate surface.

In terms of urban design, we see several cases of nostalgic visions of the city before the arrival of the car. The dense pedestrian preautomotive city is not the one seen in Martin Scorcese's *Gangs of New York*. It is the English

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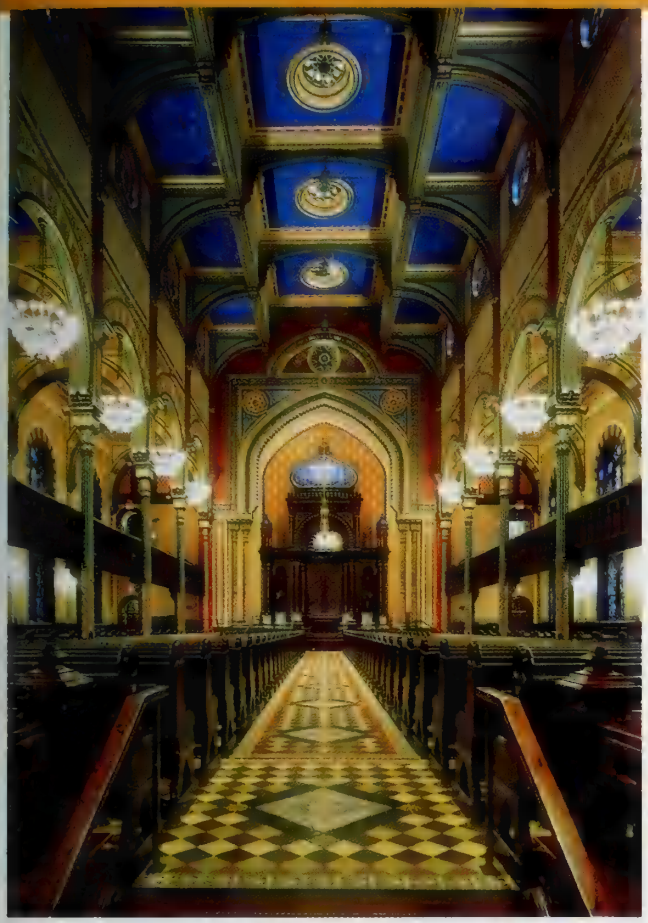
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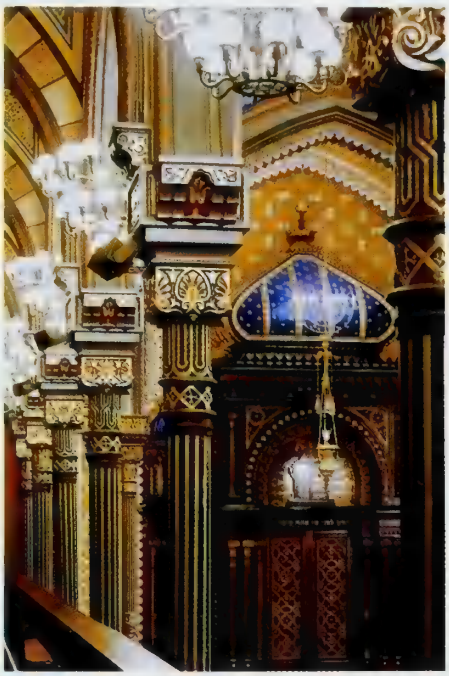
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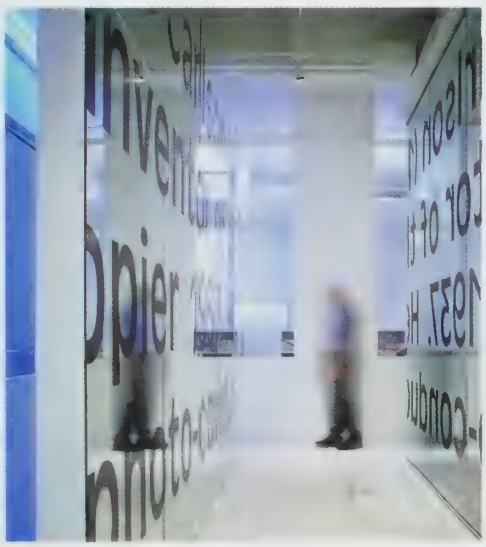
Central Synagogue
New York City
Architect: *Hardy Holzman Pfeiffer Associates*
[RECORD, November 2001, page 99]

After a fire in 1998, this Moorish-style building was restored and new elements seamlessly incorporated into the renovated interior. Gold leaf was reapplied to the finials, ribs, and decorative bands of the onion domes, while two copper finials were reconstructed. Artisans reconstructed plasterwork and floor tiles, restored wainscoting and woodwork, and masterfully painted elaborate stenciled patterns on the walls, ceiling, and cast-iron columns.

"We applaud the client for going well beyond the basic investment to recreating a building with great care and exuberance."

ImageNet
Oklahoma City
Architect: *Elliott + Associates Architects*
[RECORD, September 2002, page 136]

The design reveals what the company does, how it does it, where it's been, and where it's going. The setting both tells a story and is a metaphor. Enlisting ordinary materials derived from the print business itself, such as copy paper and typewriters, the architect creates an engaging and provoking portrait of the company.





"The whole story of the business is embedded in the design—a poetry that has been carried through the entire space."

garden community of Sunnyside, Queens, favored by Lewis Mumford and designed by Clarence Stein and Henry Wright. Nostalgia is better left to Hollywood. Urban designers should invent a new picturesque, if that is what our quasi-city dwellers really need. Sasaki Associates' plan for Philadelphia's Schuylkill Gateway is the most urban of the award winners. It makes the bizarre argument that the best city planning might be done by landscape architects.

All in all, the projects that stood out in the AIA Awards program were those that investigated three fronts expansively and creatively: reinterpreting a received building type; giving this new typological understanding a formal expression; and realizing these forms through innovative techniques and materials. Kohn Pedersen Fox has rethought the mid-rise institutional building type at Baruch College, in New York City. KPF uses escalators as the primary mode of vertical circulation from the ground level to the fifth floor, not just for functional needs, but to encourage social interaction. Here is a piece of technology associated with commercial retail space being

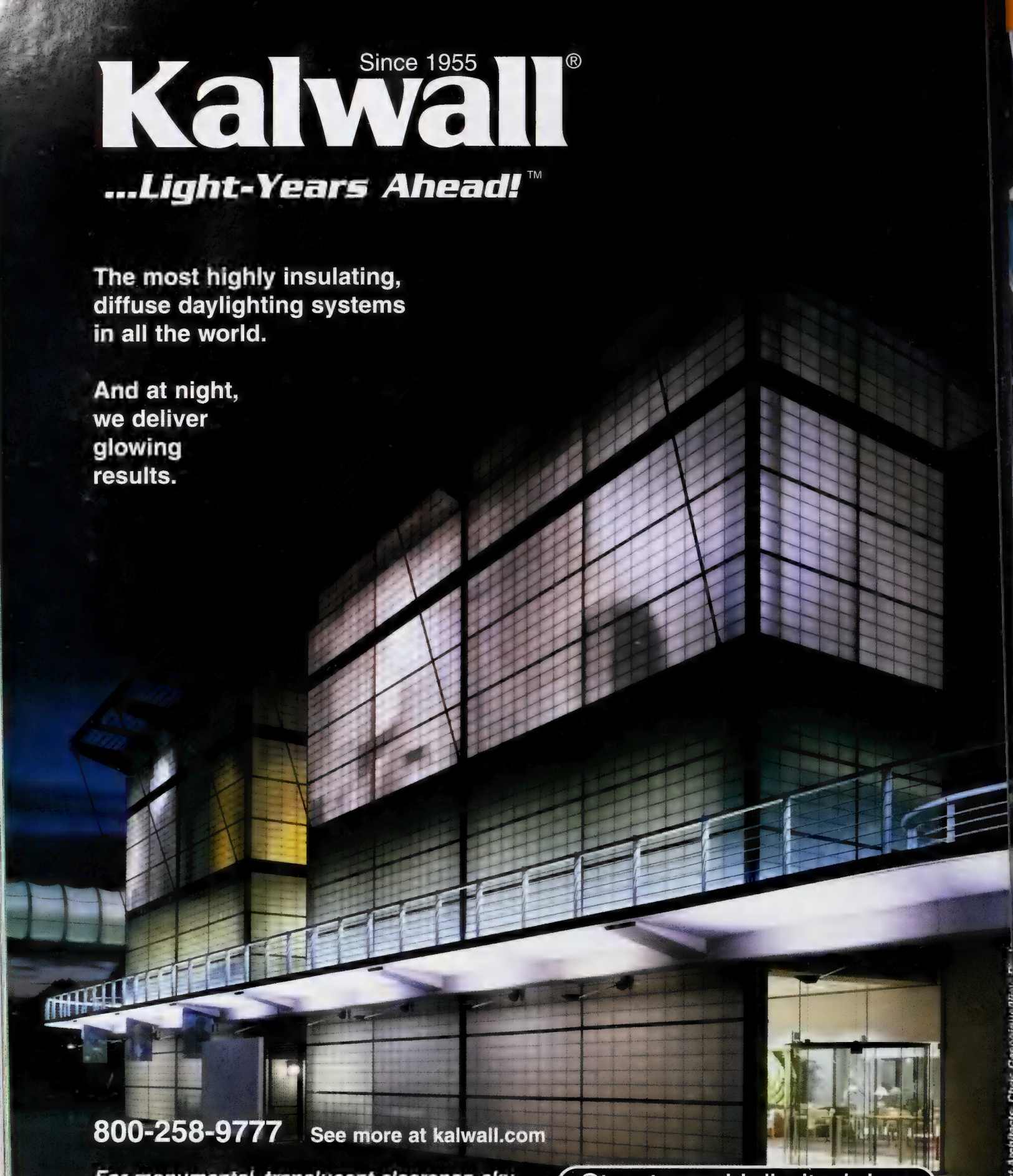
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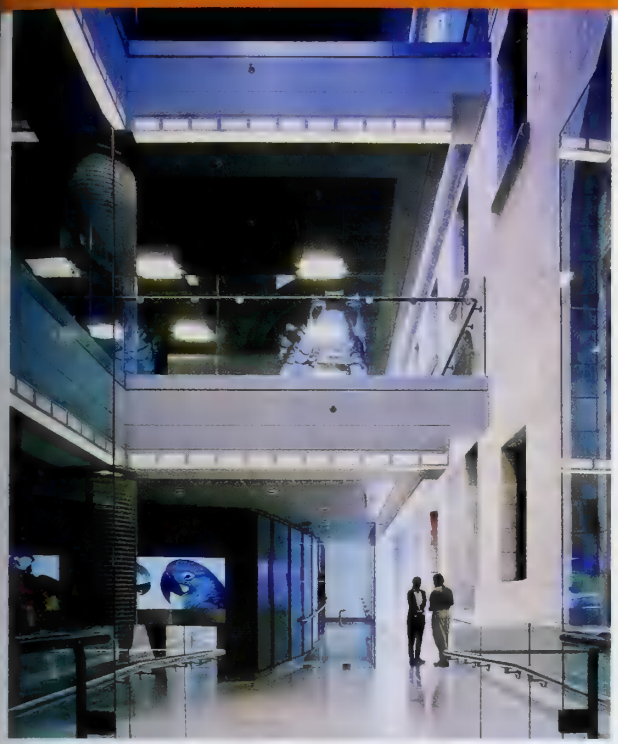


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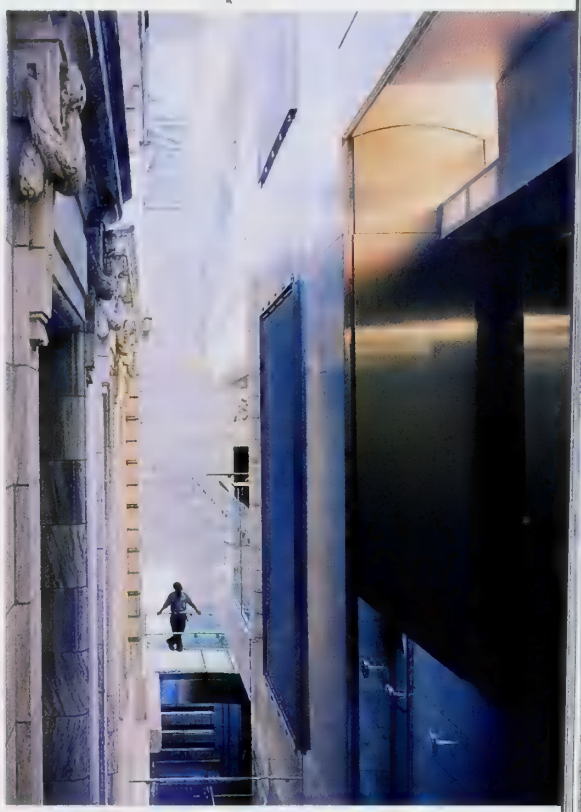
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South Court,
The New York Public Library
New York City
Architect: *Davis Brody Bond*
[RECORD, November 2002, page 134]

This three-story modern structure, located in an internal courtyard of the landmarked main branch of The New York Public Library, is successfully integrated into the original building. The structure is lit through ceiling skylights, with the upper floors cantilevered, held back from the original walls by glass partitions. The existing foundation walls are exposed at the bottom of a glass staircase, adding to the feeling of transparency.

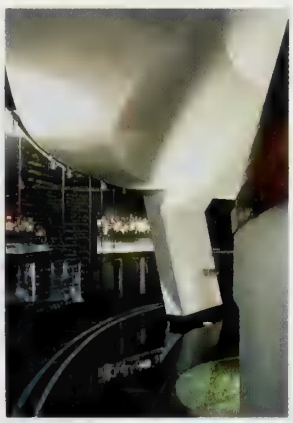
"The new building is really a nonbuilding; it subdues itself to highlight and reveal the beauty of the existing historic building."



Lutèce
Las Vegas
Architect: *Morphosis*
[RECORD, September 2000, page 144]

A mini-Venice complete with gondolas, the Venetian Resort is the home of this exclusive restaurant. A subtle entryway pulls patrons from the surrounding casino into a hushed realm of elegance. This 290-seat restaurant features a spare, sophisticated dining room. Within its circular volume, a geometry of tilting and sliding spaces keeps the eye in constant motion.







"This wonderfully subtle and sophisticated place is an oasis from the sensuous overload and chaos that is Las Vegas."

successfully used for an institution. Bernard Tschumi has reconfigured the concert hall typology in Rouen, France. Here the public and circulation space wrap around the concert hall. Louis Kahn started to do this with the Theater of Performing Arts in Fort Wayne, Indiana (1974), and Jorn Utzon partially carried it off with the Sydney Opera House (1968). But Tschumi makes that hall float in a wrapper of space and skin.

Thom Mayne of Morphosis has set a new standard for public high schools with Diamond Ranch, in Pomona, California. The school's public street between the classrooms allows students to congregate and look at the desert: It is both a large-scale civic space and at the same time is broken into smaller components for social functions. And it is formally inventive. Materials such as metal are not typical of schools in the area.

I sound conservative, but these projects did the most obvious thing architecture can do: generate a new form and a spatial model in expertly detailed materials for an institution. They pursued this end to a greater or lesser degree, but these were the most impressive projects of the day. ■

URBAN DESIGN



"A creative solution to the intractable problem of university expansion in a dense urban context bounded by a river."

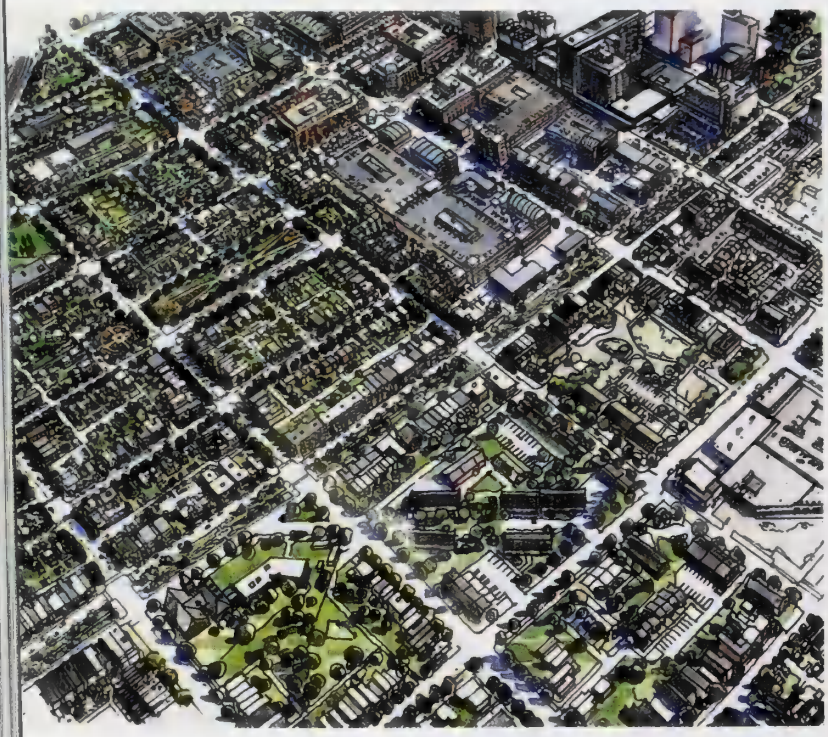
Schuylkill Gateway
Philadelphia
Architect: *Sasaki Associates; Legg Mason Real Estate Services (associate architect)*

Centered on a river, the Schuylkill Gateway builds a unified district on its two banks, with vibrant residential and office neighborhoods on each side. This unified regional hub joins civic and university life.



East Baltimore Comprehensive Physical Redevelopment Plan
Baltimore
Architect: *Urban Design Associates*

This new initiative develops a major biotechnology campus in East Baltimore, setting the stage for reinvestment in a neighborhood fraught with difficulties.





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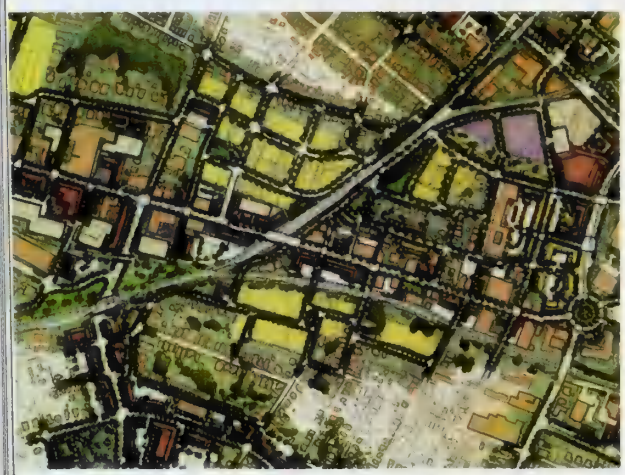


"This project represents a key turning point in reawakening the historic district around Howard University."



Howard University: LeDroit Park Revitalization Initiative
Washington, D.C.
Architect: *Sorg and Associates*

One of our nation's first African-American National Historic Districts, the LeDroit Park project raises the bar on how urban universities, once concerned primarily with their own expansion goals, can turn outward, embracing adjacent communities, working with them to fulfill mutually beneficial goals.





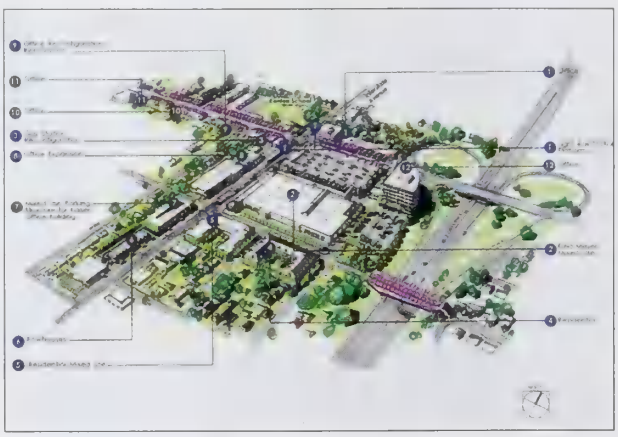
"A plan that ties the town to its malls and campus, making them all hang together, with each part humane and friendly."

Charlottesville Commercial Corridor Plan
Charlottesville, Va.
Architect: *Torti Callas and Partners-CHK*

This plan identifies and enhances the economic-development opportunities for the revitalization of 15 diverse commercial corridors, ensuring that the realization of these is consistent with the physical demands of a vibrant civic and university lifestyle.

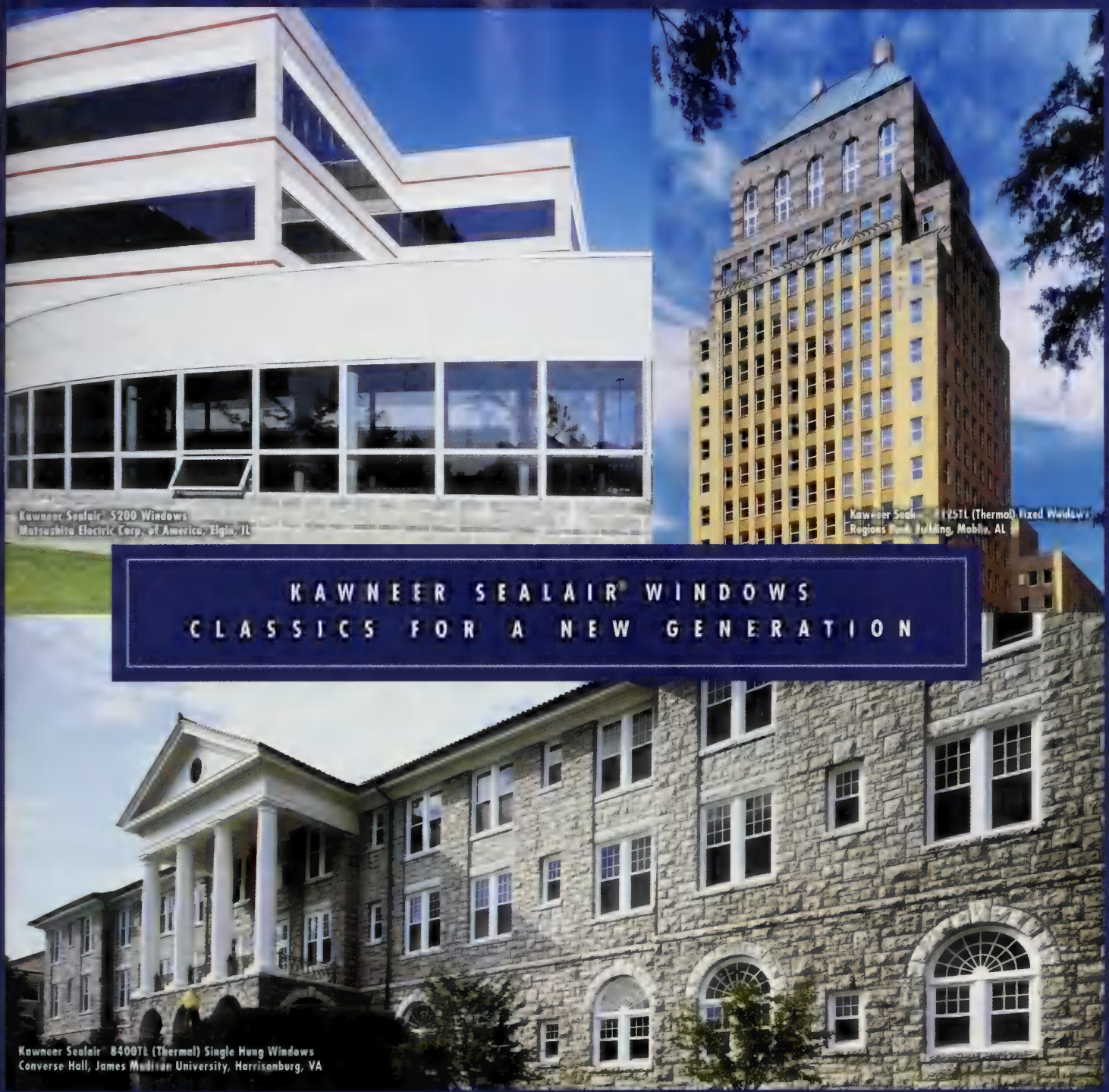
Interstate MAX Station Area Revitalization Strategy
Portland, Ore.
Architect: *Crandall Arambul*

Like many derelict urban areas, North Portland faced a rapid decline in affordable housing, employment, transportation options, and retail and public amenities. This plan revitalizes the areas around six light-rail transit stations. In this framework, planners defined neighborhood centers and pedestrian links, and offered affordable housing solutions.



"This sensitive integration of urban design and transit stations facilitates informed, vital development for each neighborhood."





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25 YEAR AWARD



A building designed for display



A familiar landmark in the charming ambience of Harvard Square, in Cambridge, Massachusetts, the former Design Research headquarters, designed by BTA Architects (originally Benjamin Thompson & Associates) withstands the test of time. Fitting comfortably within its historic urban context, the building's asymmetrical glass curtain wall allows abundant light to enter the interior, while its reflecting surface mirrors the vibrant city life surrounding it. This bold facade provides a continuous show window, seen at its most spectacular at night, when interiors, shoppers, and goods are all fully revealed to the outside. Elements of the 1969 design remain in vogue today, illustrating the foresight of the architect. This decades-old project set a new standard for the interaction of retail sales and street life, still so evident in the current retail environment, where passersby can peek at merchandise on view before coming in to shop.

Inside, the lower three floors open onto each other through alternating levels flanking a well for connecting stairways, creating a multitiered, visually and spatially unified whole. Understated wall and floor surfaces provide a neutral background for display.

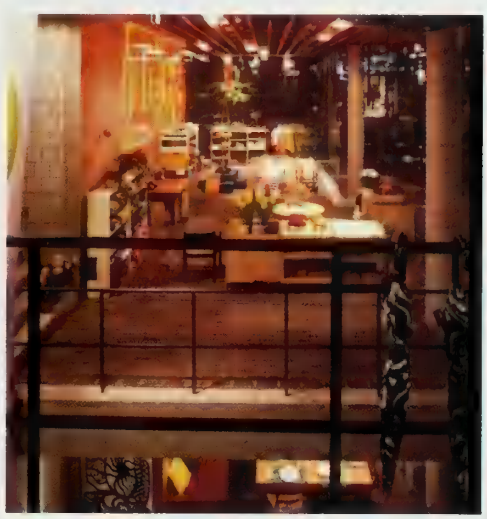
Forced to close its doors in the mid-1970s, the building was purchased by the developer of the adjacent 42 Brattle Street building, designed by Jose Luis Sert and Huson Jackson. The space between the structures has become a pedestrian passage to a building at the rear (the former offices of The Architects Collaborative) and the street beyond. In 1975, Crate & Barrel replaced Design Research as the tenant and still uses the space as its East Coast showcase store.—*Jane F. Kolleeny*



"The structure and purpose of this graceful extension of the urban streetscape are unified in subtle expressiveness."







American Institute of Architects

Winners and Jurors 2003

WINNERS

Architecture (page 132)

Federal Building and United States Courthouse: *Richard Meier & Partners, Architects; Spector Group;* **New Academic Complex, Baruch College, CUNY:** *Kohn Pedersen Fox Associates; Castro-Blanco Piscioneri (associate architect);* **Colorado Court:** *Pugh Scarpa Kodama;* **Will Rogers World Airport Snow Barn:** *Elliott + Associates Architects;* **Heritage Health & Housing:** *Caples Jefferson Architects;* **Diamond Ranch High School:** *Morphosis; Thomas Blurock Architects (associate architect);* **Howard House:** *Brian MacKay-Lyons Architecture Urban Design;* **Hypo Alpe-Adria Center:** *Morphosis;* **3rd & Benton/7th & Grandview Primary Centers:** *Rios Associates;* **American Folk Art Museum:** *Tod Williams Billie Tsien Architects; Helfand Myerberg Guggenheimer Architects (associate architect);* **Simmons Hall, MIT:** *Steven Holl Architects; Perry Dean Rogers & Partners (associate architect);* **Bo01 "Tango" Housing:** *Moore Ruble Yudell Architects & Planners; FFNS Arkitekter (associate architect);* **Concert Hall and Exhibition Complex:** *Bernard Tschumi Architects;* **Lever House Curtain-Wall Replacement:** *Skidmore, Owings & Merrill; Gordon H. Smith, P.E. (engineer of record);* **Boston Public Library, Allston Branch:** *Machado and Silvetti Associates*

Interiors (page 152)

Gardner-James Residence: *Valerio Dewalt Train Associates;* **Global Crossing Corporate Headquarters:** *Lee H. Skolnick Architecture + Design;* **Collins Gallery:** *Patrick J. Tighe, AIA;* **Kate and Laurance Eustis Chapel:** *Eskew+Dumez+Ripple;* **Martin Shocket Residence:** *McInturff Architects;* ***The Architecture of R.M. Schindler*** **Exhibition Installation at MOCA:** *Chu + Gooding Architects;* **Craft:** *Bentel & Bentel Architects/Planners;* **Central Synagogue:** *Hardy Holzman Pfeiffer Associates;* **ImageNet:** *Elliott + Associates Architects;* **South Court, The New York Public Library:** *Davis Brody Bond;* **Lutèce:** *Morphosis*

Urban Design (page 164)

Schuylkill Gateway: *Sasaki Associates; Legg Mason Real Estate Services (associate architect);* **East Baltimore Comprehensive Physical Redevelopment Plan:** *Urban Design Associates;* **Howard University, LeDroit Park Revitalization Initiative:** *Sorg and Associates;* **Charlottesville Commercial Corridor Plan:** *Torti Callas and Partners-CHK;* **Interstate MAX Station Area Revitalization Strategy:** *Crandall Arambul*

25-Year Award (page 168)

Design Research Headquarters Building, Cambridge, Mass.: *BTA Architects*

Firm of the Year (page 172)

The Miller/Hull Partnership: *David Miller, FAIA, and Robert E. Hull, FAIA*

JURORS

Architecture

Jack Hartray, FAIA (chair), Chicago; Paul Byard, FAIA, New York City; Merrill Elam, AIA, Atlanta; Mary Griffin, AIA, Berkeley; Vincent James, AIA, Minneapolis; Michael D. Perry, Hon. AIA, Virginia Beach, Va.; Barton Phelps, FAIA, Los Angeles; Ryan Sullivan, Columbia, Md.; Thomas J. Trenolone, Assoc. AIA, Dallas

Interiors

Lawrence Scarpa, AIA (chair), Santa Monica, Calif.; Sara E. Caples, AIA, New York City; Olvia Demetriou, FAIA, Washington, D.C.; Juan Miró, AIA, Austin, Tex.

Regional and Urban Design

Martha Welborne, FAIA (chair), Los Angeles; William Holloway, AIA, Wilmington, Del.; Steven Hurtt, AIA, College Park, Md.; Robert Kroin, AIA, Boston; Diane Legge Kemp, FAIA, Chicago


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FIRM OF THE YEAR AWARD

A spirit of openness propels Miller | Hull to excellence



by Sheri Olson, AIA

A stint in the Peace Corps during the 1960s altered the lives of David Miller, FAIA, and Robert Hull, FAIA, and established the fundamental values of their future practice. "As a firm we're united in the belief that architecture can change lives and make the world a better place," says Hull of The Miller/Hull Partnership, this year's winner of the AIA Firm Award. Both joined the corps after graduating in 1968 from Washington State University (WSU), where they met in architecture studio. Assigned to different



Sheri Olson, AIA, is RECORD*'s Seattle-based contributing editor, architecture columnist for the* Seattle Post-Intelligencer, *and author of* Miller/Hull *(Princeton Architectural Press, 2001).*



Michaels/Sisson Residence
Mercer Island, Wash., 1998

continents—Miller set up self-help housing programs near Brasilia and Hull built mud-brick schools in Afghanistan—they sharpened their social consciousness while practicing an architecture that was efficient, sustainable, and regional. The idealism of that time continues to fuel their work today.

After the Peace Corps, they returned to the Northwest and founded The Miller/Hull Partnership in 1977, known for combining the best of regionalism and Modernism. "In an era when buildings look the same worldwide, Miller/Hull has defined Pacific Northwest Regional Modernism in a way that inspires architects around the globe to respond to the unique characteristics of their own regions," said AIA board member Bruce Blackmer in his nominating letter. Responding to the region's mild maritime climate, pearl-gray sky, and wooded wilderness with a transparency that is the crux of their work, Miller/Hull Partnership views the region's modest utilitarian structures—the lumber mills, fishnet-drying sheds, and forest-fire watchtowers—with a Modernist's love of structural clarity, taut skins, and industrial materials. The majority of the firm's work—from sylvan retreats to exurban city halls—may be situated in the Northwest, but their approach to local climate, materials, and culture is applicable to any region. The firm's ethos of environmental and social responsibility honed during the Peace Corps represents their larger view.



Fisher Pavilion at Seattle Center
Seattle, Wash., 2002

An open culture

Miller/Hull occupies a creaky loft building on Seattle's waterfront, with ferries to outlying islands visible outside the large industrial windows. "A spirit of teamwork and mutual respect for one another is instantly obvious when one enters the space," said John Anderson in his nomination letter. There are neither doors nor individual offices, indicating the open culture of the firm. With 50 employees, the firm is at its largest, with three principals in charge of design (Miller, Hull, and Craig Curtis, AIA—also a WSU graduate, made partner in 1994), managing partner Norman Strong, AIA (another WSU grad and the firm's first employee to be made partner, in 1986), and four associates. "They're at a size when most firms would impose a management structure, but they made a decision not to do that; instead, they resist excess formalization," says Hugh Hochberg of The Coxe Group.

Instead, Miller and Hull continue to drop by each other's desks to discuss projects, as in the early days of the practice when they sat in desks facing each other. "Bob and I rely on each other to be our own best critic," says Miller. They cultivate a team approach that allows variations in response to building type and sites, while maintaining a consis-







Roddy/Bale Residence
Bellevue, Wash., 1998





1310 East Union Live/Work Lofts
Seattle, Wash., 2002



Bainbridge Island City Hall
Bainbridge Island, Wash., 2000







tency of architectural expression. The level o design leadership is what makes Miller/Hull unique producing a consistently high quality of design work recognized by 120 awards in the past 25 years. "It's rare for a firm to have multiple strong designers that are also strong design leaders," says Hochberg.

The spirit of collaboration extends to clients, consultants, and communities. Design of a border station at Point Roberts, Washington, under GSA's Design Excellence Program illustrates this quality. "The form was not the inevitable conclusion of programmatic dictates. Instead, the client engaged us in critical and imaginative explorations of representative expressions of contemporary culture," says Miller. From these discussions, Miller generated a schematic design model (shoebox-size

"As a firm we're united in the belief that architecture can change lives and make the world a better place."

for easy carrying) to share with the client. As with all projects, consultants came on board early in the process. Especially crucial input from the structural engineers facilitated design of a pair of steel masts and cables that hold up a 100-foot cantilevered canopy. As is typical for work currently on the boards, the project was presented to the entire Miller/Hull office for comment at their weekly design review. While the original vision remained the same, the feedback from all constituencies sharpened and refined important details of design.

An economy of means

The ideas that make Miller/Hull's public work uniquely expressive—the spare form, exposed structure, and exaggerated graphic sensibility—appear first in residential projects. "Houses are a great way to experiment," says Hull. The economy of means learned in the Peace Corps is also evident in Miller/Hull's residential work. For example, the Marquand retreat comes close to resolving the client's conflicting aims of enjoying the luxury of a home on a private plot of the Pacific Northwest wilderness while not destroying or imposing significant change on the terrain. Due to the client's cooperation, this 450-square-foot primitive hut is off the power grid: Kerosene lanterns provide light, a wood stove supplies heat, and a picnic cooler serves as the weekend refrigerator. Water is trucked into the remote site in the Cascade foothills and stored in a tower over a gravity-fed shower.

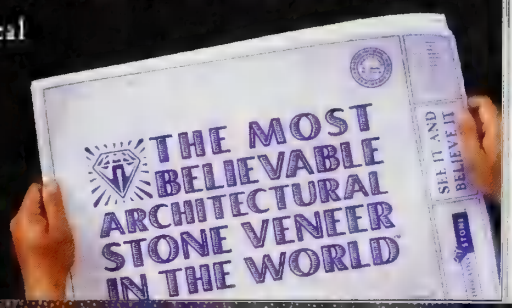
Practical considerations were key in selecting the retreat's industrial materials, since it sits in an area prone to wildfires and intruders. The exterior walls are concrete block, and metal shut-

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Novotny Cabin
Decatur Island, Wash., 1990



NW Federal Credit Union
Seattle, Wash., 1996



ters lock down over each opening. A roll-dow steel door protects a 10-foot-square opening in th center of the south facade. Clerestory window between the two overlapping planes of the roo allow sunlight to penetrate into the two-room inte rior. One of the corrugated metal planes floats ove the house, engaging the tower on the north an then projecting out to cover a porch on the south A single, off-center column holds up a cantilevere edge beam and frames a view of the surrounding basalt cliffs. Like many Miller/Hull projects, the spare design plays with scale to create a monumentality befitting the raw beauty of the landscape.

Modernism's new civic face

Perhaps best known outside the Northwest for its innovative houses, Miller/Hull Partnership's public work is what impacts the local community. "During my tenure, the firm worked on several important buildings in Seattle, all of which have contributed significantly to the public realm. The Garfield Community Center transformed one of the most dangerous corners in our city into an active, vibrant meeting place," wrote former Seattle mayor Paul Schell in his nominating letter. In contrast to traditional institutional buildings that rely on symmetry and solidity to convey gravity and longevity, Miller/Hull defines a new civic face with floating planes, geometric volumes, and taut surfaces. "Public architecture by definition has an obligation to impart meaning and symbolism for people," says Miller.

The spare form, exposed structure, and exaggerated graphic sensibility appear first in their residential projects.

The firm's classroom building for the Olympic College campus in Shelton, Washington, exemplifies the best qualities of their public work. A vast roof hovers over classrooms running along the north and the covered open-air walkway connecting them along the south. Faculty offices puncture the classroom wall to articulate this elevation and provide a more intimate scale. The roof rises over its 100-foot length, culminating in a dramatic double-height porch held aloft by a steel beam supported on a "V" of slender steel rods. It is a simple yet innovative detail that appears slightly off balance, capturing the eye while creating an indelible image.

Miller/Hull emphasizes the expressive potential of ordinary construction rather than highly crafted, high-cost details. This is partially due to tight budgets for public projects, but also derives from the principals' Peace Corps days and the moral imperative of doing more with less. The



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Olympic College
Shelton, Wash., 1995

Marine Technical Facility,
Seattle Central Community College
Seattle, Wash., 1987



firm achieves this through innovative yet straightforward handling of ordinary materials and attention to textural variety and depth. At Olympic College, the fine grain of natural wood siding is juxtaposed with medium-density fiberboard panels. Oversize wood battens cover the vertical joints between panels every 4 feet and have exposed fasteners to contrast roughness and fineness.

Olympic College's bold colors, jumbo textured siding, and oversize roof combine to give the 8,000-square-foot project a physical presence worthy of its symbolic role in the community. A 1999 National AIA Honor Award jury concluded: "'On a tight budget, this modest, unpretentious design serves its client and its small community well." Throughout the region, Miller/Hull's government, institutional, and community projects assert a civic presence in amorphous town centers and on the edges of suburbia.

Miller/Hull brings the same level of thoughtfulness and creativity to the less glamorous utilitarian structures that form the backdrop of community life. "Thinking of the building types they have sought out and realized—recycling centers; water pollution control laboratories; small, ecologically sustainable community buildings and houses—one feels an understated polemic," wrote Steven Holl in his nominating letter. A water pollution control laboratory on the Willamette River in Portland, Oregon, provides a welcoming public face, yet embodies a distinctly utilitarian use. A working demonstration of storm-water treatment illustrates the building's purpose as a water-quality testing facility in a series of water features on the parklike site. Scuppers and downspouts dramatize the fact that roofs are a major source of storm-water runoff in urban environments.

Both architect and developer wanted to give people a reason to abandon their three-car-garage McMansions.

Sustainable design

Sustainable design is a natural outgrowth of Miller/Hull's design approach rooted in a response to site specifics. "We feel that sustainable design and regionalism are intricately tied together. All significant lessons in sustainable architecture come from the vernacular," says Miller. This environmental focus won the firm a series of awards, including two National AIA Top Ten Earth Day awards. "They clearly show that creative, intriguing, and beautiful structures can be sustainable," says William Browning, founder of the Rocky Mountain Institute. Bainbridge Island City Hall, Washington, demon-



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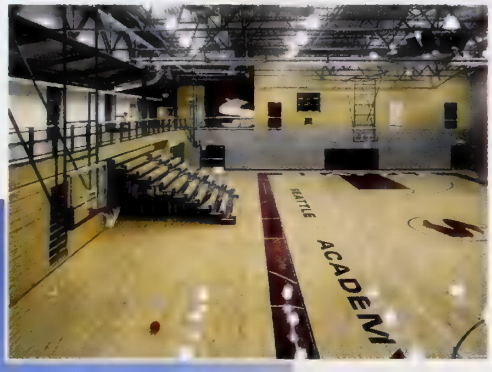


Water Pollution Control Laboratory
Portland, Ore., 1997





Marquand Retreat
Naches River Valley, Wash., 1992



Seattle Academy of Arts and Sciences Gymnasium Building
Seattle, Wash., 2002



strates this quality. Skylights run the length of double-height interior street to bring natural lig deep inside and facilitate natural ventilation throug operable windows. Finish materials are primaril recycled, nontoxic, or non–ozone depleting. With t astute siting of the project's simple volumes, a nev civic center thrives on what was once a parking lot

The future of sustainability lies beyon material choices to changing patterns of growth Working with an environmental activist, forme high-tech executive and first-time developer Li Dunn, Miller/Hull designed 1310 East Union, a steel-and-glass loft-style condominium project on a small urban lot. "Our idealism and risk-taking tends to attract clients with similar attributes," says Miller. In a city dominated by cookie-cutter multi-family projects, both architect and developer wanted to give people a reason to abandon their three-car-garage McMansions and live in the city with a design that was architecturally strong. The striking, steel-framed glass box expresses a Modernist sentiment, with fine-grained detailing to lend a residential scale. Seismic X-bracing—slender tube steel painted brick red—crisscrosses the central bay's outboard of motorized glass garage doors that slide up to open entire walls of

"All significant lessons in sustainable design come from regionalism and the vernacular."

some units to the outside; an appealing feature in the Pacific Northwest's moderate climate. These essentially room-size front porches combine with a scattering of cable-railed balconies to add an extra liveliness and neighborliness to the street. Although not intended as a prototype, it is an example of the type of urban-infill project Seattle needs to mend gaps in the urban fabric while addressing the shortage of high-quality in-city housing.

What the award will bring

How will the award change Miller/Hull? "As our reputation grows as a result of this award and we design more outside the Northwest, we hope to employ a regional approach to these new environments," says Miller. The firm discussed and dismissed the idea of establishing branch offices and looks instead for more opportunities to collaborate with firms in other locales. "It will also probably help to attract even more bright, talented people to our staff," says Strong. Otherwise, after finishing the champagne sent by clients and well-wishers, it is back to the drawing boards, computers, and model shop. Adds Curtis, "Now there's even more pressure to do good work." ■

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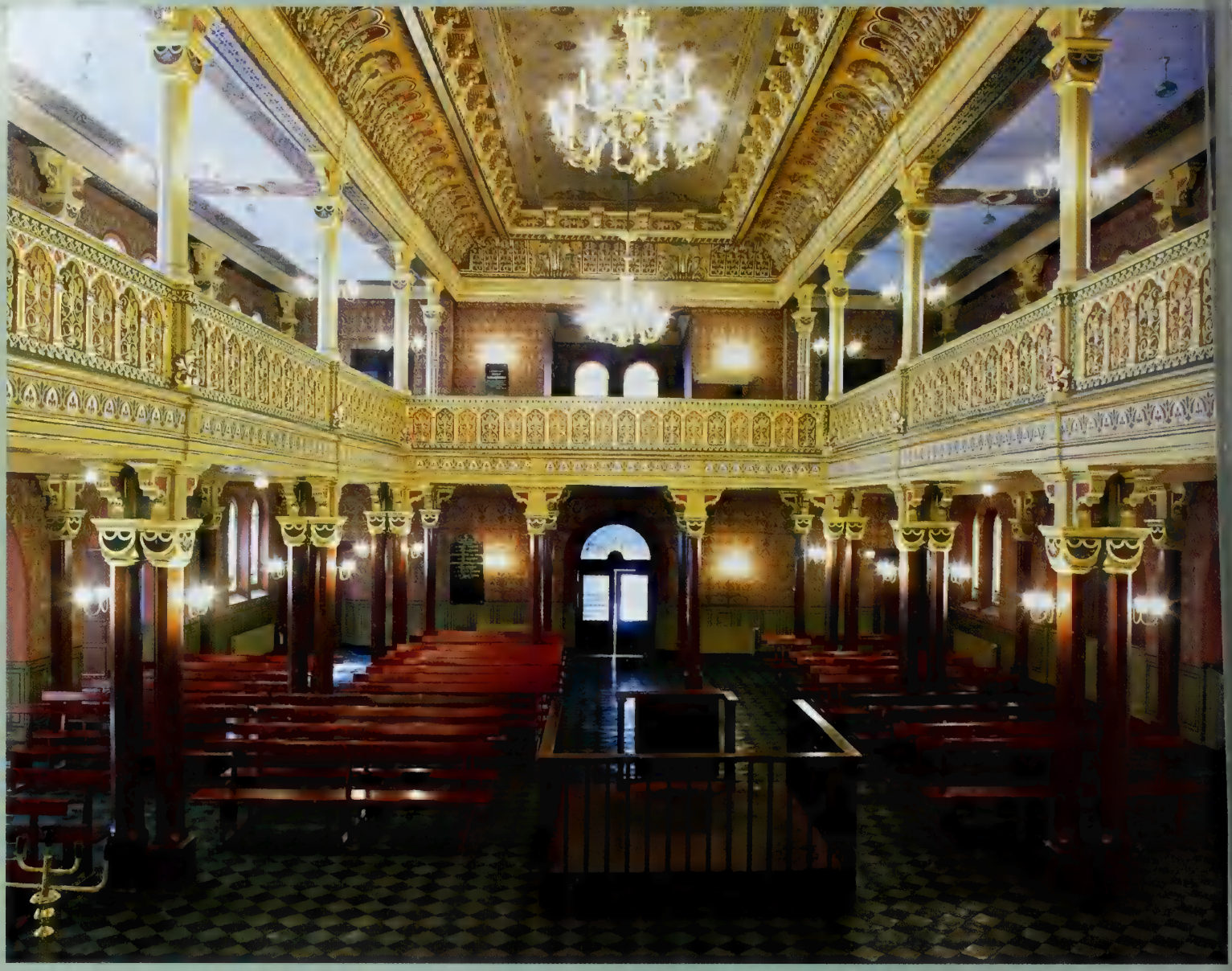
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Tempel Synagogue, Kraków: One of the few synagogues that survived the Nazi occupation of Poland during World War II, this mid-19th-century manifestation of an era of great Jewish prosperity was intact but in poor repair when the World Monuments Fund undertook its restoration. The prayer hall (above) is Classic in form, with Moorish ornament reapplied by preservation craftsmen. The exterior (right) was given a fresh coat of stucco.



Two synagogues regain new life and tell of the old

By Mildred F. Schmertz, FAIA

Since the end of World War II, over a period of almost six decades, damaged or totally ruined buildings, districts, and older city centers in Europe and the former Soviet Union have been restored or completely rebuilt as close as possible to their prewar state. Until recently, most preservation effort has been expended on buildings and sites of outstanding aesthetic, historic, or cultural significance, such as the recently completed rebuilding of the old city of Dresden and the restoration of the Reichstag in Berlin [RECORD, July 1999, page 103]. By contrast, restoration or conservation of little-known structures of perhaps equal architectural importance has begun in Poland, Czechoslovakia, Hungary, and Romania.

With the fall of Communism, the opening of Poland's borders to Western tourists has brought many Jews to visit the villages, towns, and cities where their forebears lived before the Holocaust. Many pass through Krakow on their way to and from the memorial on the site of the former death camp at Auschwitz-Birkenau. There is little that remains of Jewish life for these pilgrims to see and experience, however, because the Nazis destroyed Jewish neighborhoods, schools, libraries, and synagogues, and handed over Jewish homes to Germans and local collaborators. Today, contemporary Jewish culture does not flourish in the former iron-curtain countries because very few Jews care to live there. But remaining synagogues, if not empty ruins or reborn as movie theaters, warehouses, or put to other ordinary uses, are being adaptively reused as Jewish museums and libraries, while some are being maintained as living places of worship for existing congregations and visitors.





The principal facade (top) and the ark and its setting (above) as they appeared before restoration. The prayer hall ceiling was blackened by decades of neglect. The synagogue interior and exterior were still intact and this required removal of soiled paint and finishes rather than significant reconstruction, apart from extensive repairs to the roof.

Soon after the lifting of Soviet control in 1990, Samuel Gruber, then founding director of the Jewish Heritage Council of the World Monuments Fund (WMF) and currently a consultant to WMF, prepared a list of 10 architecturally important Polish synagogues that were in need of restoration. Of these, he recommended that the 19th-century Tempel Synagogue in Krakow receive special attention by WMF. This synagogue is not only a magnificent building that emerged from the era of Polish Jewry's largest expansion and greatest prosperity, but it is also the only intact large urban synagogue of its type still to be found within the country. Constructed of brick and covered with stucco in 1860–62 by followers of Reform Judaism, the Tempel underwent additions and renovations in the 1890s and again in the 1920s. It survived because the Nazis used it as a stable and a warehouse. Neglected for more than 50 years and closed for a decade, the building required extensive restoration.

The small, poor, and elderly Jewish community of Krakow, owners of the synagogue, welcomed WMF's offer of help. Repairs began in 1994 and were completed in the late spring of 2000. Today the Tempel serves as a synagogue for Jewish groups visiting Krakow and for the larger religious ceremonies of the local congregation. It also functions as a concert hall because of its excellent acoustics. In addition to WMF, the Municipality of Krakow and the Citizens' Committee for the Renovation of Krakow's Monuments assisted the work, led by Ronald S. Lauder, chairman of the Jewish Heritage Program and WMF vice chairman.

As a manifestation of separate and distinct Jewish culture, the original builders of the synagogue intended that it not resemble a church but rival the best of them. Located at the entrance of Kazimierz, an old former Jewish district within Krakow, it was positioned and designed to dominate this 19th-century residential and commercial neighborhood. Similar to other examples of Reform architecture of the period, the main facade is a freely reinvented eclectic mix of Romanesque and Gothic motifs. Inside, the prayer hall shape derives from both Neoclassic and Renaissance sources, while walls, ceilings, cornices, and balustrades are patterned with painted and gilded Moorish ornamental motifs from the Alhambra. The plan is elongated and culminates in the Holy Ark at the east end. Like all Reform synagogues, it had no central reader's platform or table (bimah), although today a small bimah is located close to the ark to accommodate Orthodox worship.

Architect and journalist Mildred F. Schmertz is a former editor in chief of ARCHITECTURAL RECORD.



Chevra Lomdei Mishnayot Synagogue, Oswiecim: This little synagogue in the Krakow region was completed in 1930; shown here (top) as it appeared in 1941 during the Nazi occupation. The brick-with-stucco facade and the tile roof have been carefully restored (middle). The synagogue adjoins and is part of the newly created Auschwitz Jewish Center (bottom).





According to WMF vice president Joh Stubbs, "After restoring the outer shell, our polic for the prayer hall was to be one of conservatio as distinct from heavy-handed restoration. W didn't want this great room to look like new instead it was to be a survivor of World War II with a long history of previous use." Stubbs an the WMF team—Polish restoration architec Janusz Smolski, preservation consultants Roma Kozlowski and Pawel Karaszkiewicz, and preser- vation student Mary Culver—were pleased that the original interior finishes had for the most part survived and possessed the patina of age. Given this, there were long discussions about the patina. Should it remain softly faded? Can we allow it to shine or glow in some places? "Everything we did was discreet and measured in our effort to blend old and new," Stubbs remembers.

A cultural icon is reborn in Oswiecim

In 2001, skilled Polish architects and preservationists, under the direction of New York architect Arthur Rosenblatt of RKK&G and Polish architect Ryszard Swietek, completed the conservation, restoration, and adaptive reuse of a little synagogue in Oswiecim, in the Krakow region. Today it is an industrial town of nearly 50,000 people, but only 10,000 lived there before World War II, and half were Jews. The German name for the town is Auschwitz, and the former death camp is less than two miles away. The Nazis destroyed the town's main synagogue, but left intact a small one, the Chevra Lomdei Mishnayot Synagogue, built between 1928 and 1930. Like the Tempel Synagogue, it is one of Poland's few remaining centers of lost Jewish life and is of immense historic and cultural importance simply because it still exists. And it is still there, like the Tempel, because the Nazis had a use for it, first as a place to store munitions and later as a warehouse.

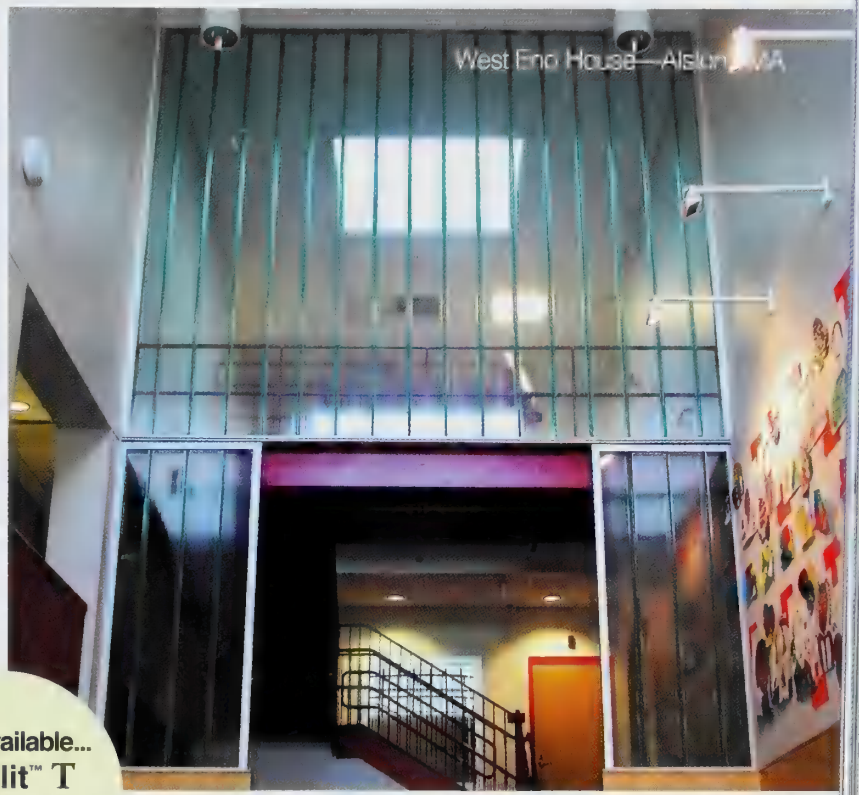
The decision to bring the little building, which had most recently been used as a carpet warehouse, into the mainstream of Jewish pilgrimage to and from Auschwitz-Birkenau was made by the New York–based Auschwitz Jewish Center Foundation and a similar Polish-based group. The philanthropist Fred Schwartz, once known as "Fred the Furrier," established the foundation in 1995. After five years of lobbying, Schwartz persuaded the government of Poland to make the synagogue property the first to be returned to the Jewish Community of Poland under a 1997 national law regarding restitution of prewar Jewish communal lands. Because Auschwitz-Birkenau has no specifically Jewish place for visitors seeking quiet and spiritual comfort after their death-camp visit, Schwartz created the Auschwitz Jewish Center and acquired the synagogue to be that place. On behalf of the cen-

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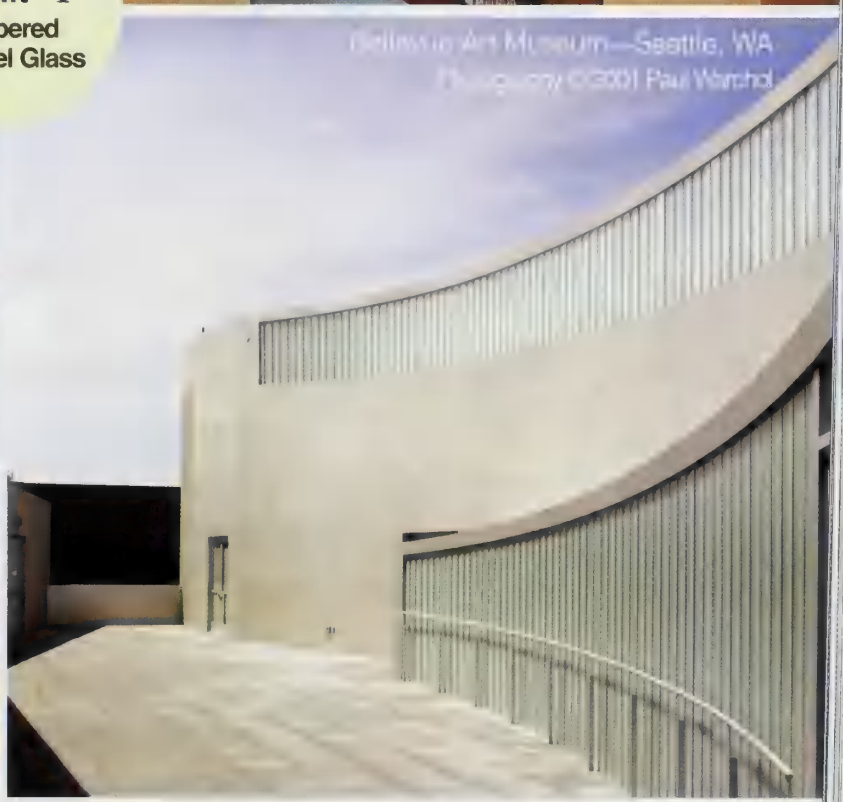
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The original ark, benches, and bimah of the prayer hall were lost when the Nazis first converted the synagogue into a munitions warehouse. The new furnishings (above) were built following clues offered by old drawings and photographs. The former women's section (below) serves as an extension of the exhibition space in the Auschwitz Jewish Center. The windows connecting it to the main prayer hall have been restored.



ter, the Ronald Lauder Foundation purchased the large house next door to be remodeled as a small museum that would exhibit photographs and slide and film presentations of prewar Jewish community life, and include a room for communal gathering and an administration office.

The synagogue is a gabled building of stuccoed brick walls and a tile roof on wood trusses. While it was still a warehouse, except for two plaques concealed by rolls of carpet, the interior gave no clue that it was once a place where people came to pray. Ark and bimah were long gone. Original doors were filled in and concealed, with new doors added elsewhere, and the interior openings in the wall that divided the women's section from the main prayer hall were plastered over. The interior space had been badly diminished by replacement of the original ceiling by a lower one that dropped below the arches of the windows, sealing them off at the springline.

Because it was a secular building, the two-story house could be renovated and altered to become a museum. The synagogue itself, however, as a priceless survivor of the Holocaust, was restored to its original condition, except for the women's section, which, while carefully restored, serves as an extension of the adjoining museum.

Rosenblatt and his team renewed the stucco colors and projecting masonry patterns on the main facade and installed a new ceiling at the original height, allowing the formerly blocked-in window arches to emerge inside and out. A new ark was placed on the eastern facade, and a study of the building's foundations revealed the position, size, and shape of the original bimah that they then duplicated. Guided by old photographs and drawings of similar synagogues, the architects and preservationists assumed that the carpentry of the bimah, benches, and shelving would have been plain and practical, with a dark varnish, and so they were newly made.

Rosenblatt's conservators, Maria and Aleksander Filipowicz, like their colleagues at work on the Tempel interiors, took a similar interest in choosing the appropriate level of restoration of ornament. Careful peeling of layers of wall paint uncovered a frieze pattern under the ceiling that they were able to replicate. In the interest of conserving what was there instead of making new, they elected not to replace the pattern everywhere, but only along walls where traces were found. In discussing his work at Oswiecim, Rosenblatt often refers to the skills of Sweitek and the Filipowiczes. "They brought to this little synagogue the highest possible level of care and craft, equal in quality, if not in volume and scope," he says, "to the conservation effort made for the Tempel Synagogue in Krakow." ■



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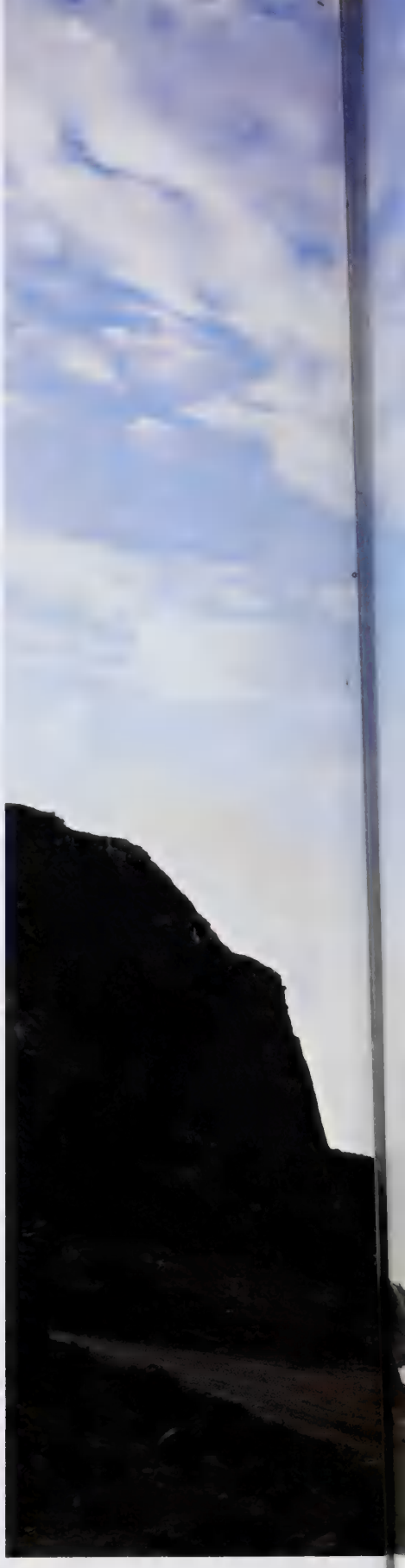
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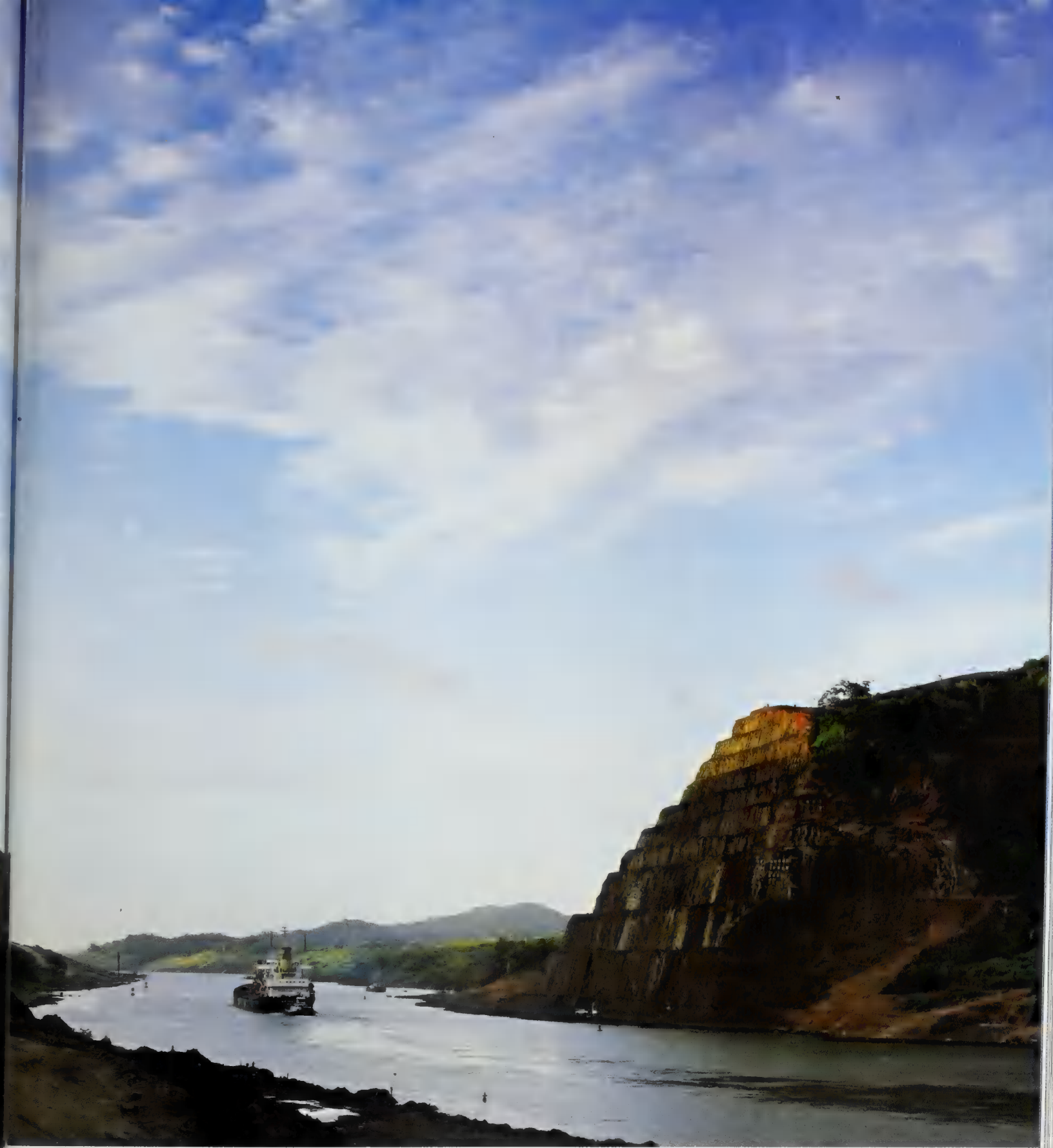
Photographs by Elliott Kaufman

In 1903, the Republic of Panama, a country that was lopped off of Colombia at the behest of Teddy Roosevelt, signed a treaty with the United States to allow the construction of an interoceanic ship canal. It was the Apollo Program of its time, demanding that engineers conquer unprecedented technical problems in an adverse climate where yellow fever and malaria epidemics often raged. Back in Washington, Congress and the White House often waged political war with the builders, second-guessing nearly every decision they made. When it was completed in 1913 at a cost of $387 million, the canal represented one of the most expensive construction projects ever undertaken.

In 1977, the canal became a potent symbol of how the U.S. perceived its position within shifting world politics. At that time, President Carter signed a treaty that would cede control of the canal back to Panama on December 31, 1999. He believed that the long-term political interests of the United States were best served by treating Panama as a democratic partner, rather than appearing to exploit it as if it were a colony. Architectural photographer Elliott Kaufman visited Panama four times in 1999, to document the canal during its last year under the American flag. *Charles Linn, FAIA*



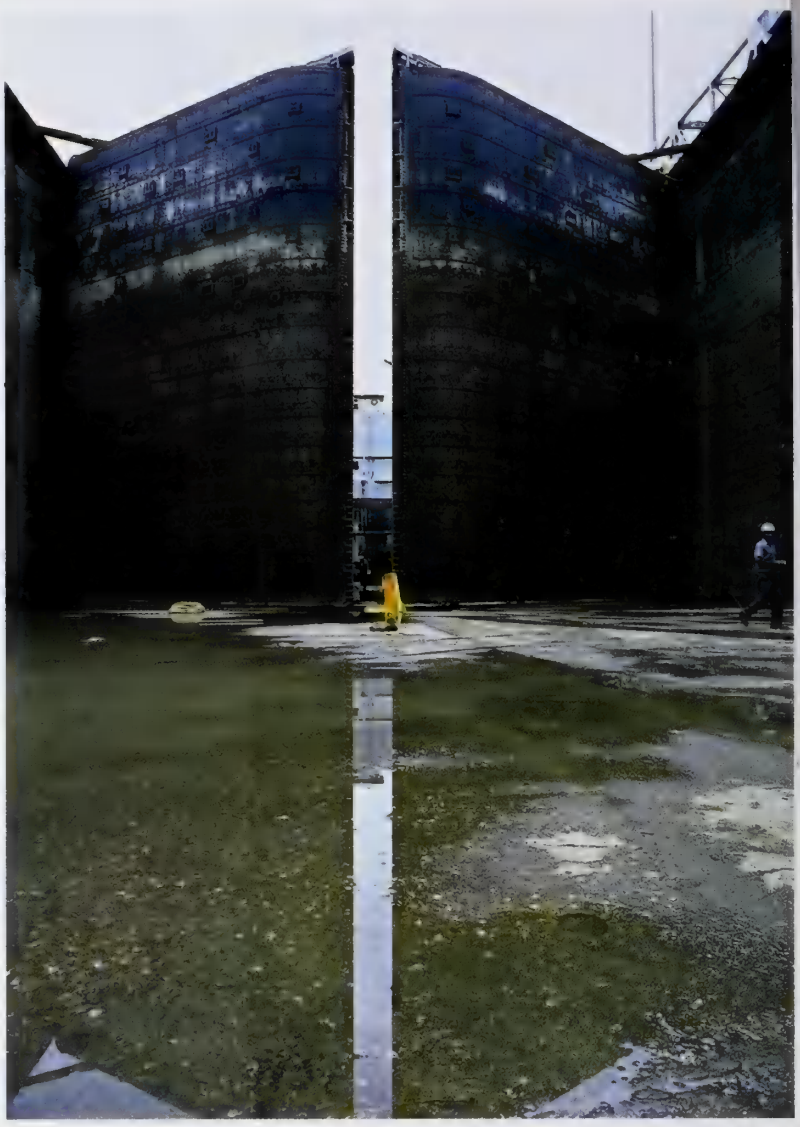
The Panama Canal: a monument to perseverance



ınd technology

Miraflores Lock gates during overhaul (opposite, top left). A ship passes through the Gaillard Cut (above), where countless landslides slowed construction.

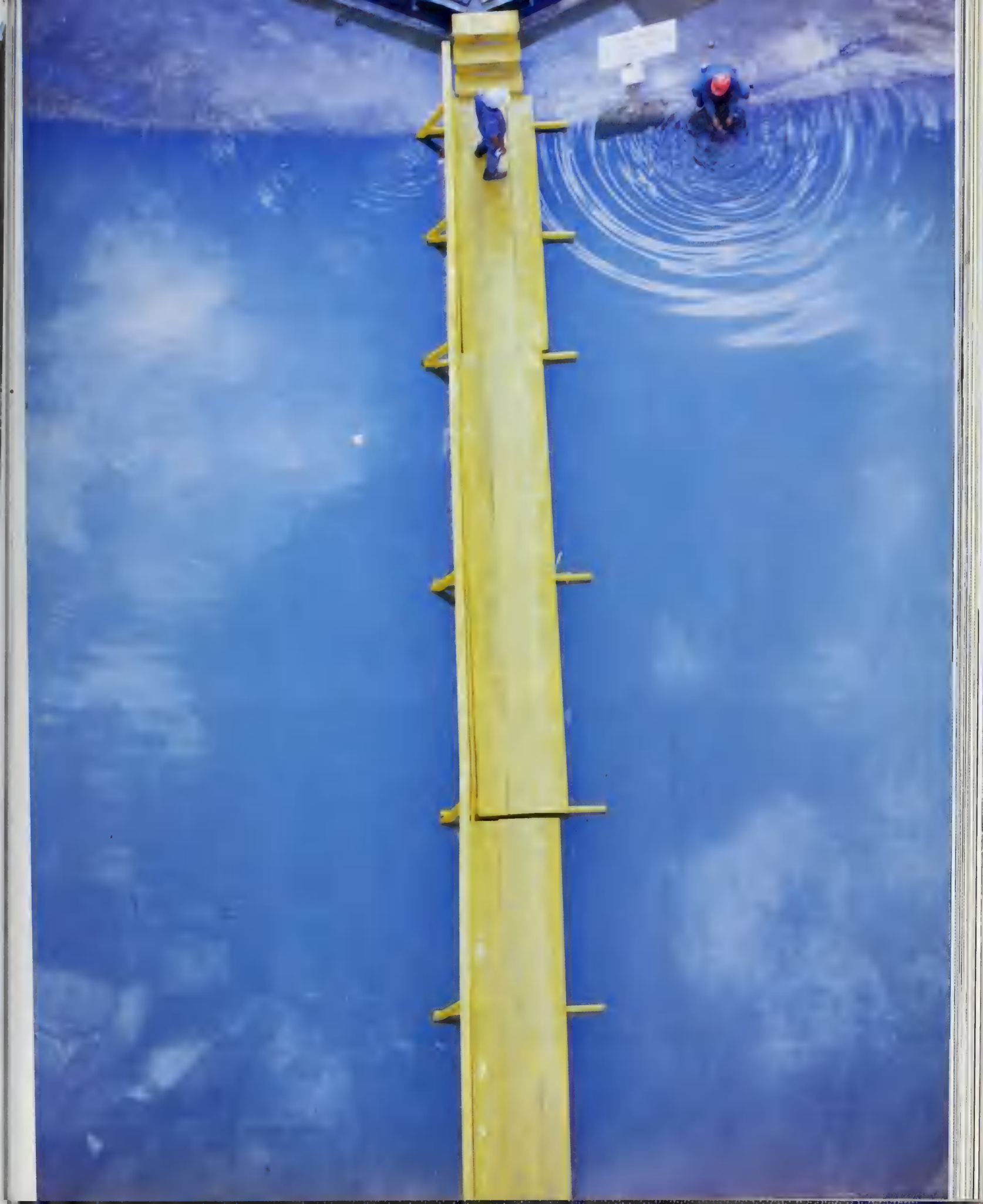








A Panamax-class container ship can be no wider than the one shown here (lower left). Periodically the locks are drained so that the machinery and culverts can be overhauled and repaired (all other photos).



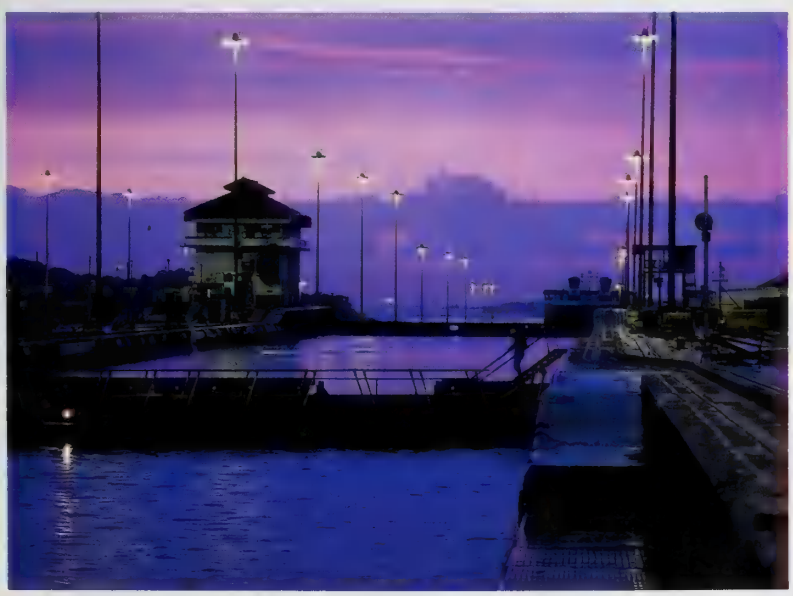






A spillway (top) that controls the level of Lake Gatun can also be seen in an aerial view (opposite). A ship in the lock at Miraflores (bottom left) and the culvert that supplies water to it (bottom right).





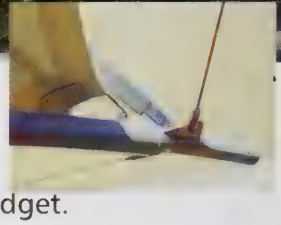


Gatun Lake, seen at the lower right of the top photo, was created to supply water to the locks. Two views of the Gatun Lock from the Caribbean Sea (bottom left and right).

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Sometimes compared to a giant puzzle piece or computer punch card, the new undergraduate dorm stands at an edge of the campus, on a narrow strip of land bound by railroad tracks to the north and a street bordering fields to the south (opposite).

Steven Holl experiments with constructed "porosity" in his design for SIMMONS HALL, an undergraduate dorm set in the scientific realm of MIT



By Sarah Amelar

Instead of a brick urban wall, we envision … a porous membrane made up of four or five individual buildings," architect Steven Holl, AIA, wrote in 1999 as he embarked on the design of Simmons Hall, his recently completed dormitory at MIT. Rejecting the university's development guidelines for the narrow strip of land bound by railroad tracks to the north and Vassar Street, a thoroughfare bordering playing fields, to the south, Holl proposed his own master plan. Focused on a "porous building morphology," it called for a row of "permeable" rather than barrier buildings, interspersed with pocket parks.

One goal, he argued, was to respect existing view corridors from the residential district gradually taking shape in an industrial landscape just over the tracks, and the Charles River, glimpsed through a row of MIT buildings along the south edge of the playing fields. Listing the ideal qualities for Simmons Hall, he supplemented transparency, porosity, and permeability with "screen, net, aperture, passageway, sieve, unrestricted, honeycomb, riddle, sponge, opening, hole, cribriformity, pervious."

Well, maybe cribriformity wasn't the driving force. But what really is this porous building morphology? Holl has in the past borrowed freely and loosely from the language and concepts of biology to generate architectural form—as with his Kiasma art museum in Helsinki, a structure alluding to a genetic process [RECORD, August 1998, page 86], and his Het Oosten "sponge" building in Amsterdam [RECORD, October 2000, page 126]. So, on the richly scientific terrain of MIT, why not begin with permeable membranes and natural sponges? But, beyond that starting point, how does Holl's perforating approach—expressed both literally and metaphorically—serve Simmons Hall, the students, and the surroundings?

Often likened to a giant computer punch card or notched puzzle piece, this 350-bed dorm now stands 10 stories high, 385 feet long, and 53 feet deep—wrapped almost entirely in a matrix of 2-foot-square windows (5,538 of them). Though not part of Holl's initial concept, the gridded shell, a thick layer of precast-concrete panels clad in sanded aluminum over insulation, actually forms an exoskeleton, bringing the building's heavy structure to its outer surface. It's a solution devised by structural engineer Guy Nordensen, who developed a high-strength precast system, called Perfcon, specifically for this project, providing essen-

Project: *Simmons Hall, MIT, Cambridge, Massachusetts*
Architect: *Steven Holl Architects—Steven Holl, AIA, Timothy Bade, design architects; Timothy Bade, project architect; Ziad Jameleddine, Anderson Lee, assistant project architects; Peter Burns, Gabriela Barman-Kramer, Makram el Kadi, Annette Goderbauer, Mimi Hoang, Matt Johnson, Erik Langdalen, Ron-Hui Lin, Stephen O'Dell, Christian Wassmann, team*
Associate architect: *Perry Dean Rogers*
Engineers: *Guy Nordensen and Associates; Simpson Gumpertz & Heger (structural); Arup (mechanical)*







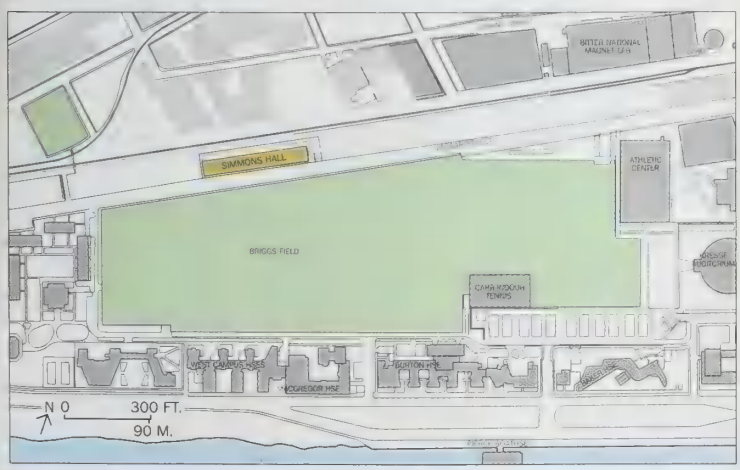
tially a bearing wall that accepts a regular pattern of holes while allowing for such major structural variables as large openings and cantilevers.

This muscular, rigid grid encases a massive creature very different from Holl's diminutive, ephemerally veil-like Het Oosten "sponge." Here, a large-scale grate—which, unmodulated, might have evoked a penitentiary—is playfully relieved by the insertion of huge rectilinear and amoebic openings, by large notches in the building's rectangular silhouette, and by flashes of primary color lining the big notches and deep window jambs.

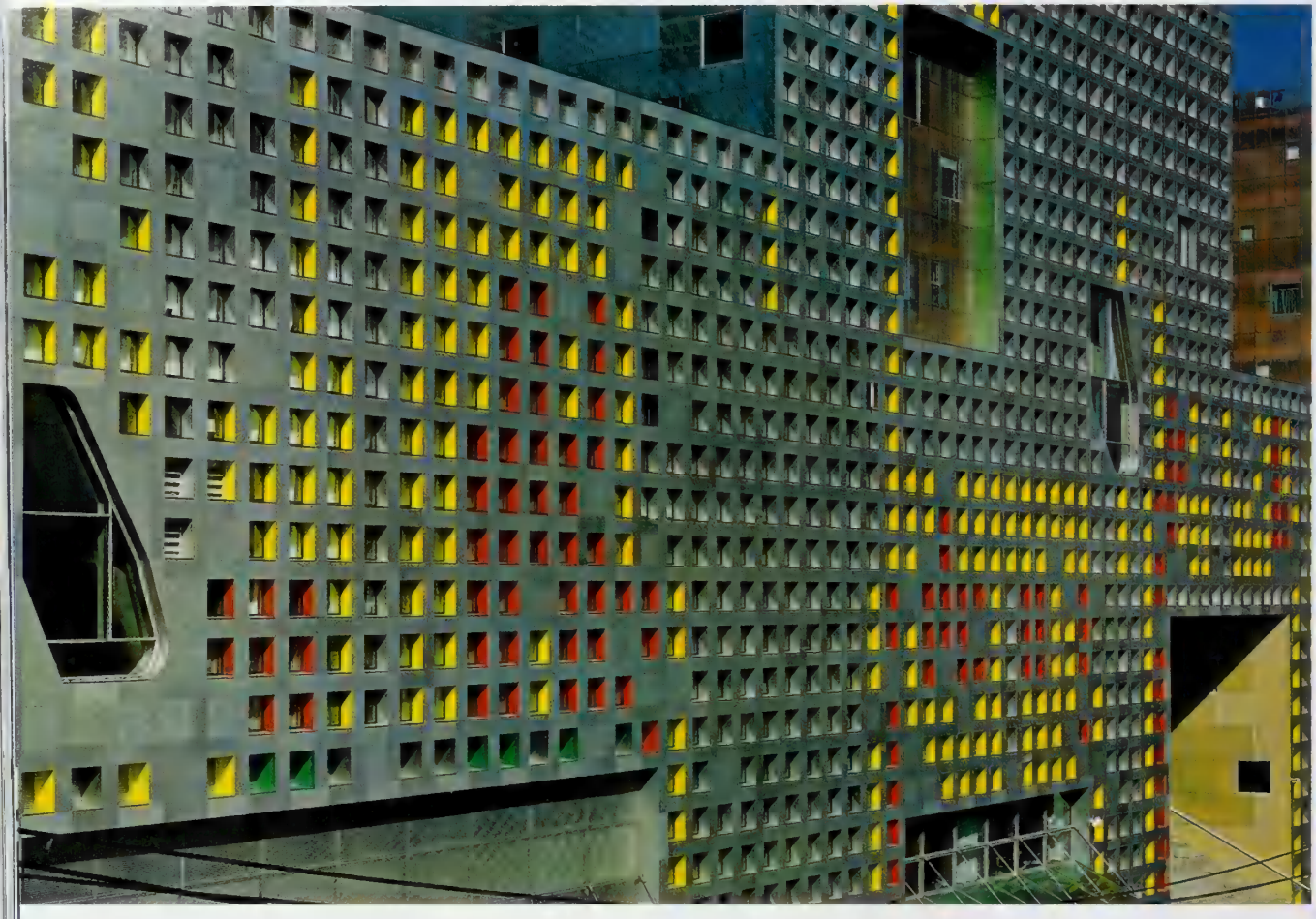
But the promise of literal front-to-back openings or even transparencies—as implied by Holl's master-plan diagrams of porous building possibilities—is hardly realized. With only the two roofline notches truly penetrating the entire volume, the building actually blocks views with the first seven or eight stories of its entire 385-foot length. Though its enormous crowning crenellations form three towerlike projections that successfully temper the reading of the dorm as a single megablock, the notion of a view-retaining "porosity" remains somewhat mythical here. Even a large opening at the base of the building—sheltering bleacher seats facing the field and a Dan Graham sculpture inside—stops short of offering a completely transverse portal or visual passageway.

A desire to create buildings with long, bridgelike spans or portions hovering high above the ground has recurred throughout Holl's career. Like Simmons Hall, most of these schemes have taken a superscaled, imposing, almost graphic overall form—as in his Spatial Retaining Bars proposal (1989) for apartment buildings configured as upside-down "L"s; his similarly shaped hotel/apartment design (1999) for Mexico's JVC Center [RECORD, June 1999, page 134]; and most recently, the crossbar tower proposal (2003), on which he collaborated for New York City's World Trade Center site [RECORD, February 2003, page 45]. Perhaps due in part to structural, budgetary, and circulation impracticalities of such grand, acrobatic gestures, many of these schemes remain

With its cast-concrete exoskeleton clad in sanded aluminum, the chameleonlike building changes appearance according to light conditions (this spread). Holes in the entry canopy (above) play against the grid's regular rhythm, providing a whimsical rendition of the porosity theme.







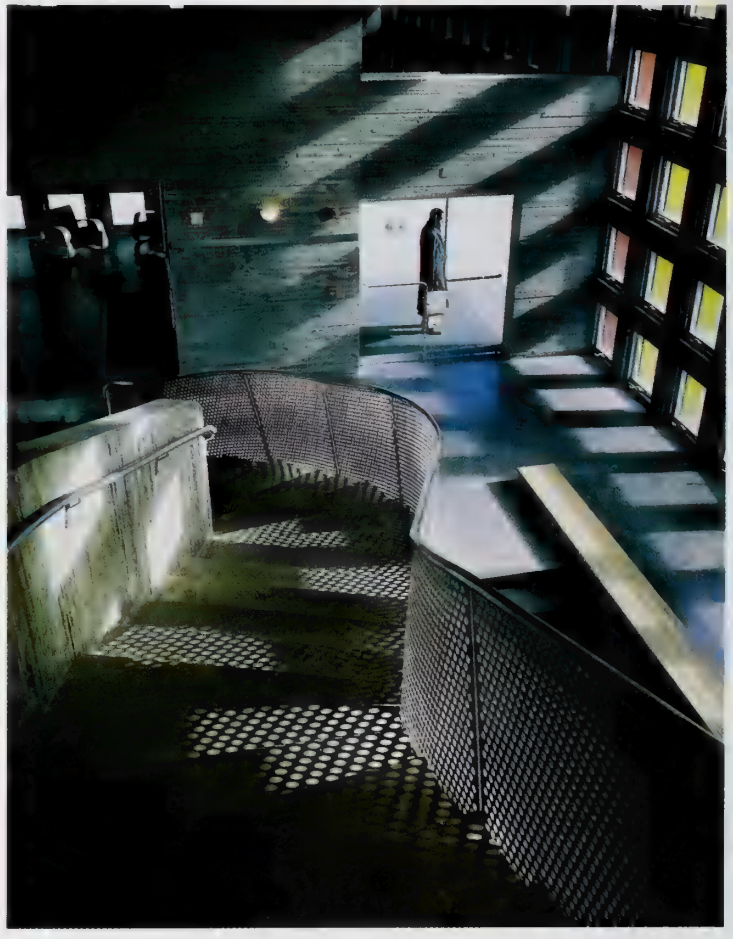
The facade's precast Perfcon panels allow for long spans without deep beams. Color within the window head and jambs (left) presents a stress diagram of the structural members. The heavy grid was intended as a brise-soleil—to shade the high summer sun and let in low winter rays—with insulation beneath the aluminum cladding increasing the thermal mass. Daylight filters through the grid and a perforated metal stair rail in the lobby (below).

unbuilt. At Simmons Hall, the big lateral notches form only blind openings, in contrast to the architect's early sketches.

As an urban gesture, Holl's assertion that MIT's master plan needed greater openness, literally and perceptually, made a lot of sense. The campus, originally a Beaux-Arts scheme, had steadily lost definition since the 1950s, when its last building boom set a high standard with Alvar Aalto's Baker House dormitory and Eero Saarinen's Kresge Auditorium and Chapel. The current building campaign—which includes Simmons Hall, as well as structures by Fumhiko Maki, Frank Gehry, and others—has revived MIT's ambitions for world-class architecture. The projects also share a mission to enhance and increase the campus's communal spaces, indoors and out, and knit together its disparate parts. After all, this is a place still reeling from a shift, in recent decades, away from a predominantly male commuter population toward a coed and resident one—and, with that change, a pervasive awareness of isolationism among the students. Holl saw the importance of engaging not only the academic community, but also, to some extent, non-MIT neighbors, as he designed for a site known until recently as "Siberia."

So, Simmons Hall does not turn its back on the tracks, but shows similar faces to the university and its environs. In that sense, the dorm takes a conceptually open attitude. At the same time, all elevations of this substantial edifice offer curiously surreal scale readings. While the large openings help diminish its perceived size, vertical stacks of three windows per floor give the impression of a 30- rather than 10-story structure. And with apertures significantly smaller than standard windows, the predominant 2-foot grid, hardly a light lattice, creates a pattern whose density can read, paradoxically, as more closed than open. (For better or worse, you never get the illusion that you're glimpsing into the rooms.)

The overall perception, however, shifts with changing light. At





In the lobby, a highly sculptural stair of board-formed concrete with a perforated metal rail modulates light and shadow (this page and opposite, bottom).



EIGHTH FLOOR



SEVENTH FLOOR



SIXTH FLOOR



THIRD FLOOR



SECOND FLOOR



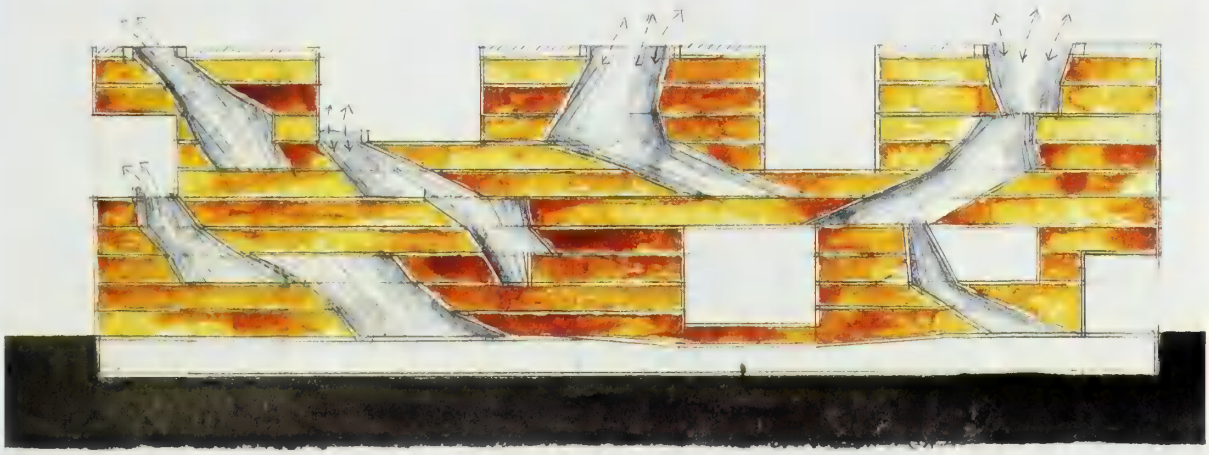
GROUND FLOOR

N 0 20 FT. 6 M.

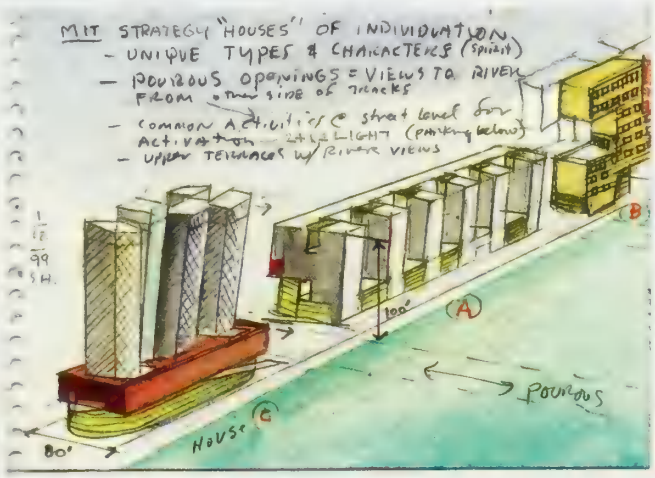
1. *Lobby*
2. *Glazed passage*
3. *D. Graham sculpture*
4. *Mail room*
5. *Multiuse/auditorium*
6. *Meditation*
7. *Dining hall*
8. *Outdoor dining*
9. *Prep kitchen*
10. *Servery*
11. *Student kitchen*
12. *Study*
13. *Group lounge*
14. *Open to below*
15. *Housemaster*
16. *Laundry*
17. *Typical single room*
18. *Graduate resident*
19. *Terrace*
20. *Photo lab*
21. *Assoc. housemaster*
22. *Skylight*
23. *Exercise*
24. *Visiting scholar*
25. *Housemaster reception*
26. *Typical double room*
27. *Bleachers*
28. *Computer lab*
29. *Game room*
30. *Music room*

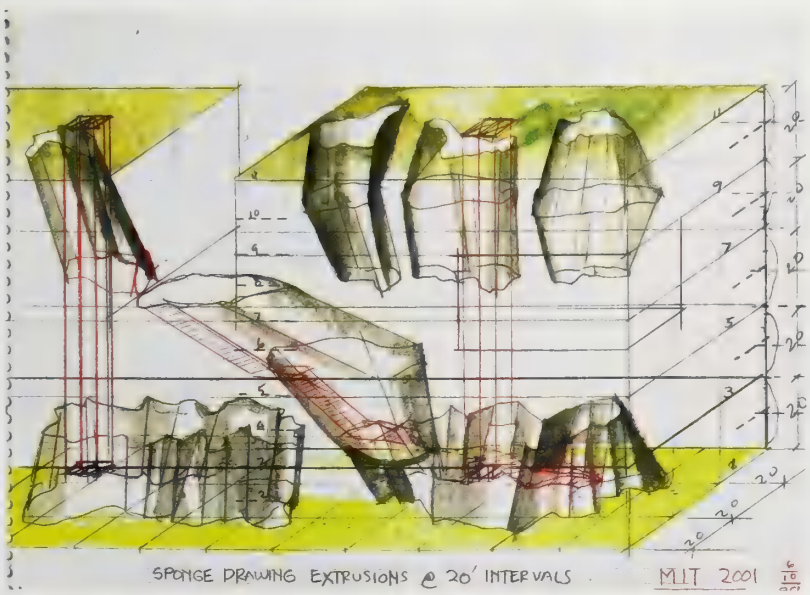


SECTION A-A EAST/WEST



For his master plan, Holl sketched several variants of the "permeable," or "porous," building (right). The shapes of Simmons Halls' multistory lounges (below) derive from sponge prints. These sculpturally fluid spaces connect residential houses vertically within the dorm, encouraging student interaction. Holl also conceived of them as the building's "lungs," promoting vertical ventilation (as much as fire code permitted) and deep penetration of light and air.









Undulant lounge forms project into the corridors (left). Throughout the interior, the outer grid has a strong presence (above). Terraces are only accessible from such controlled spaces as graduate resident apartments (below).



On the interior, variations on the theme of perforation abound (this page). Typical single dorm rooms have nine 2-foot-square windows, which are operable but restricted to an 8-inch maximum opening (bottom). Each window has its own separate curtain, which some students complain is inconvenient. Holl designed all the dorm room furnishings here, just as Alvar Aalto did at nearby Baker House. Punched with holes, the new furniture is intentionally "porous."



Kiasma, Holl learned a lot about the nature of matte sanded-aluminum cladding—which has exceptional chameleonesque properties, sometimes reflecting the blue sky, other times appearing dull and gray or luminous and silvery. Within the dorm's large notches, he added color cleverly by specifying an off-the-shelf palette of weatherproofing membranes behind perforated aluminum panels that reveal the hues in constantly varying degrees. The three-dimensionally sculptural character of this "puzzle piece" building—with lateral notches staggered along the end elevations—also contributes to its self-transforming qualities.

In its long, narrow, shiplike proportions, colorful window jambs, board-formed concrete interior walls, integration of decks or terraces, and even in its approach to program, Simmons Hall is a distant cousin of Le Corbusier's Unité d'Habitation. Like the Unité, Holl's dorm aspires programmatically to offer "a slice of the city," combining living spaces with a range of communal functions—here responding to the call for gathering places (supplying the proverbial sponge to draw students in) with a night café; multipurpose performance space; dining hall; photo lab; and lounging, study, meditation, and exercise rooms. The night café, in particular a scarce





Sculptural lounge and study spaces (this spread) link multiple residential houses vertically, promoting student interaction. Internal stairs enhance spatial dynamism and increase opportunities for students to see and be seen (above). Skylights cap many of the lounges (below), and Holl skillfully integrated electric illumination to supplement daylight (right and opposite).





amenity at MIT, has been attracting students from all over campus.

Once beyond the entry threshold, marked by a 1950s-ish, whimsically hole-riddled canopy at the building's southeast corner, the porosity theme really takes off, both conceptually and more superficially. Finely perforated and fully Swiss-cheesed materials abound—as in the pale wood dorm-room furniture, designed by Holl—conveying either a delightfully playful sensibility or decorative enslavement to the permeability motif.

Taking the theme a bit deeper, the facade's amoeboid windows open onto irregular, cavelike lounges and group studies. Just as sponges have large channels amid finer-grained pores, Holl suggests, these sculptural insertions penetrate the more regular pattern of rectilinear rooms. Lined in crudely finished plaster and containing gestural stairways, the fluid and dynamic spaces connect multiple "residential houses" vertically within the dorm, promoting student interaction. A virtual Rorschach test, the typically skylit retreats—which the architects designed from inky sponge prints—have been compared to caverns, wombs, volcanoes, and wisps of smoke. Among the most interesting parts of the building, they offer an intimate scale, but may, as a result, be small for the number of students sharing them.

Holl had envisioned these lounges and studies opening up onto the corridors, which, though low-ceilinged, he made extra wide as potential congregating zones. Fire regulations, however, forced him to enclose the sculptural spaces, which still project, sometimes clumsily but elsewhere intriguingly, into the hallways and dorm rooms. He had also imagined student life flowing from the interior onto the terraces, but the university has tightly controlled access to high decks.

Even with three levels of window spanning floor to ceiling in each dorm room, the typical 2-foot-square aperture tends to feel confining rather than expansively permeable, giving the heavy grid what some students consider a slight jail-like quality. (Holl denies that MIT set constraints on fenestration sizes, but he intimates that the campus suicide history led to a stipulation preventing windows from opening more than 8 inches.)

A "porous building morphology" may be a lofty proposition, but, at its loosest, the drive for porosity led Holl to experiment literally with sponge prints, and it yielded some extraordinary spaces. MIT, under the guidance of president Chuck Vest and architecture and planning school dean William Mitchell, should also be credited with an open-minded, or "permeable," attitude in taking a risk on an unusual architectural exploration. Along the way, the design process remained exceptionally open to interchange with the student body, Holl reports. When, for example, he considered coloring the window jambs to identify different residential houses within the dorm, students balked, and he found a new strategy. The colors now form a giant structural diagram, expressing the relative stresses born by each member (red being the highest and blue the lowest). One sign of the building's success in engaging the students—other than the crowds gathering in the new communal spaces—is the ongoing argument about the accuracy of that color-coded diagram. Apparently, a few skeptical future engineers have been recalculating the stresses—but, of course, this is MIT. ■

Sources

Concrete: *Beton Bolduc; Aggregate Industries; S&F Concrete Corporation*

Windows: *Wausau (aluminum)*

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The studio buildings (below and opposite) sit atop a 5-foot-high podium that provides a continuous outdoor space for teaching but also raises the structures above flood waters. The 3-acre campus (above) reclaimed a neglected portion of the Napa River.

Stanley **Saitowitz** creates a small riverfront campus in Napa for the **OXBOW SCHOOL**, where art and design take center stage

By Clifford A. Pearson



Think "community" rather than "school" and you get a better idea of what Oxbow is all about. The brainchild of Ann Hatch, an important player in San Francisco's visual arts scene for the past two decades, Oxbow offers a one-semester program for high school juniors interested in drawing, painting, sculpture, photography, new media, and printmaking. Students from around the country come to the appealingly scruffy town of Napa, California, for a 16-week session, and all of them (including those from the local area) live on a 3-acre campus facing the oxbow—or bend—of the Napa River. Stanley Saitowitz, who had worked with Hatch on two previous projects (a house renovation and a space for her Capp Street Gallery), understood what she wanted here and designed a set of buildings that embody the school's ethos of collaboration and creativity.

While most people think of Napa as a land of wealthy winegrowers and San Franciscans rich enough to have second homes in the lovely rolling hills, the town—rather than the county—is actually quite working class and remains a bastion of 1960s-era wariness toward big money. So when Hatch and her main benefactor, the wealthy wine maker Robert Mondavi, quietly acquired a series of contiguous properties on the Napa River and said they wanted to build a school, the town was anything but welcoming.

At that time—the late 1990s—Mondavi had begun planning Copia, a center for wine, food, and the arts to be built in Napa. Hatch originally thought Oxbow could be part of that project, but Mondavi suggested that it be a separate entity. Building the school directly across the narrow river, though, let Hatch and her faculty make use of the auditorium and other facilities at Copia (designed by Polshek Partnership Architects) when it opened in 2002.

Design of the school began as a project for an undergraduate studio that Saitowitz was teaching at the University of California, Berkeley. Hatch and Mondavi acted as clients for the hypothetical project, and the students' designs were presented in a public forum in Napa. "It was a good warm-up exercise and helped us with the programming," says Saitowitz. But the town misinterpreted the student designs as the real thing and became alarmed. Eventually, Saitowitz brought the project into his office and the true design process began. But his design had to overcome the town's initial resistance.

The site for the school came burdened with problems. A recent flood had reminded people that the 15 properties earmarked for Oxbow sat in a flood plain, which made purchasing the land less expensive but building on it more difficult. A derelict warehouse and aging Victorian houses on the properties presented the challenge of either renovating the old buildings or convincing the town to let the school tear them down.

Project: *The Oxbow School, Napa, California*
Client: *The Oxbow School—Ann Hatch, president; Margrit Biever Mondavi, vice president; Robert Mondavi, trustee*
Designer: *Stanley Saitowitz Office/Natoma Architects—Stanley Saitowitz, design principal; John Winder, project architect; Steve Schneeman, Sean Murphy, Edward Kim, project team*
Engineers: *Santos and Urrutia (structural); Reicher Spence and Associates (civil)*
Consultants: *Tofer Delaney (landscape); Dott Electrical (lighting)*
General contractor: *The Oliver Co.*

The new studio buildings (above and right) establish a formal but engaging street edge and provide spaces for street furniture, such as benches. Deep roof overhangs and limited fenestration on the lower portions of the buildings protect the south-facing elevations from the sun.



Although he had initially hoped to recycle the warehouse, Saitowitz determined in the end that it would be less expensive and more effective to raze it and build something new. His plan also called for moving one old house to a different part of the site, renovating a few others, and converting a pair of two-story apartment houses into student dorms. All of the buildings would be set on a 5-foot-high plinth, raising them above flood waters, and the new ones would employ a combination of cedar planking and translucent channel glass on the street front and roll-up garage doors on the riverside.

The town authorities had a preference for gingerbread architecture and a fear of anything modern, but Saitowitz's design eventually won them over. The new 20-foot-high studio buildings engaged the street with a visually appealing checkerboard of wood and glass, solid and void, while additions to the two dorm buildings created handsome elevations that reinforced this streetscape and provided needed space for small faculty houses. Facing the river, the studio buildings can open up almost completely, expanding teaching spaces onto a continuous outdoor terrace. Although the plan closed a small cross street that ran through the campus, it provided public access to the river and cleared tangled brush from the water's edge. For the first time in memory, this bend in the river became an attractive piece of the public realm, now strategically located in front of the much-visited Copia center.

Saitowitz designed the three studio buildings as simple, steel-frame structures made of 25-foot-wide modules and separated from each other by 25-foot-wide outdoor courts. Using two modules for one building, three for another, and one for the third, he created a visual rhythm that is expressed on the street side and a floor plan that responds to the spatial needs of the various studios. While most of the studios rise the full 20-foot height to the metal roof decking, a mezzanine cuts through one module, providing classroom space above and darkroom and rest rooms below. Saitowitz kept interior finishes as simple as the structure, specify-



1. *Studio*
2. *Student dorm*
3. *Faculty house*
4. *Office*
5. *Work spaces*
6. *Multipurpose (future)*

Saitowitz renovated two small apartment houses and added a new faculty house (below) to the street front of each one. He also converted several small Victorian houses (such as the one at right in photo below) into office space.





The studio buildings face north and take advantage of river views with roll-up glass doors (opposite). While students spend most of their time in the 20-foot-high studio spaces, a more traditional classroom (left) sits on a mezzanine with a darkroom and rest rooms below. The school has 36 students now but can accommodate 48.



SECTION A-A



SECTION B-B

0 10 FT.
3 M.

1. *Shop*
2. *Studio*
3. *Student dorm*
4. *Faculty house*
5. *Darkroom*
6. *Classroom*



FIRST FLOOR

N 0 20 FT.
6 M.



ing 4-by-8-foot sheets of plywood and Homosote panels screwed directly onto the metal framework. For the north-facing riverside, he designed elevations that are almost all glass, with much of their lower portions being commercially available roll-up garage doors. For the opposite facade, he created deep roof overhangs to provide shade and limited transparent glass to just the upper half.

"I wanted the teaching areas to be studios with air, light, and space," explains Hatch. "We weren't going to use the old art-room-in-the-basement approach here." Since the school is founded on the idea that the arts are important to our culture, Oxbow's architecture needed to be an essential part of its identity. "I pushed for the architecture to be out-front from the very beginning," states Hatch.

The strategy seems to be working. The studios' flexible space and their ability to open onto outdoor rooms and to each other creates an excellent environment for team teaching and collaborative learning, says Stephen Thomas, the school's director and head of its printmaking studio. And at night, "the buildings seem to float above the river," says Thomas. Saitowitz uses a similar image to explain the structures but looks at them from the inside out. "What I love about these buildings is that when you roll up the doors, the architecture disappears."

The large, empty spaces of the studios and the gaps between the small buildings turn out to be the spatial engines driving Saitowitz's ingeniously simple design. As is true with much Japanese architecture, the voids nourish the whole. ■

Sources

Steel joists: *Vulcraft*
Aluminum windows: *Fleetwood*
Storefront windows: *Arcadia*
Channel glass on studios: *Pilkington/Westcrowns (Profilit)*
Channel glass on faculty house: *Pilkington/Westcrowns (Linit)*
Upswinging doors: *Cookson Roll-Up Doors*
Wall covering: *Homosote*
Tiles: *Daltile*
Exterior lighting: *Hydrel; Bega*

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Located at the site of Oslo's former international airport, Telenor's new headquarters boasts spectacular views (above), and dramatic volumes (below).



In a joint venture, NBBJ, HUS, and PKA capture precious Nordic sunlight in a dramatic office environment for TELENOR'S WORLD HEADQUARTERS

By Peter MacKeith

When Oslo, Norway, resident Ragna Brekke arrives at her place of work each weekday morning, she enters into "the office of the future," a virtually paperless, highly mobile, literally transparent, intimate environment, notable for what it physically lacks as much as for its calm face-to-face activity: no rows of filing drawers, no stacks of manila folders or shelves of ring binders, no mail trolleys or archival boxes waiting for transport, no anonymous cloth-covered cubicle partitions or even a patterned open 'landscape' of workstations.

Instead, Ragna chooses one of the eight entrances punctuating the two curving glass facades that frame the arrival plaza of the new Telenor headquarters building in Fornebu, just west of the Oslo city center, overlooking the Oslofjord. She moves through a seven-story-high atrium and along glass corridors to her working area for the day's activities—a space large enough for 30 employees, arranged in groups of two to four—and places her coat and belongings in a wooden locker near the unit-area entrance. She sets her mobile phone and her notebook computer down on one of the available "floating" worktables, plugs them into the power and data ports, and accesses the company servers for her telephone logs, daily files, correspondence, and reference materials. Glass-enclosed conference rooms are nearby, within each unit area, for necessary meeting and private discussions, as is a kitchen for coffee and simple meal preparation. As she pauses in the day's activity, her screen saver displays a selection of family photographs and notes—the equivalent of the personal tackboard.

A senior business consultant with the Norwegian-based international telecommunications giant, Ragna is one of the nearly 6,000 employees the company consolidated from more than 30 Oslo area offices into an assembled workforce at Fornebu, all newly trained in a unique (indeed, patented) way of working at Telenor: untethered to a specific desk in a specific office; reliant upon digital, wireless, and cellular technology; and emphatically humane. Not surprisingly, perhaps, in this open, flexible workplace, with its atmosphere of informality and egalitarianism, Telenor's C.E.O., Jon Fredrik Baksaas, also occupies a similar worktable in the headquarter's administrative unit, in close proximity to his administrative team, and face-to-face with his administrative assistant (albeit the top floor allows slightly better views of the spectacular surroundings!).

Peter MacKeith is the associate dean at the School of Architecture, Washington University in St. Louis. A permanent resident of Finland, he writes frequently on Nordic architecture.

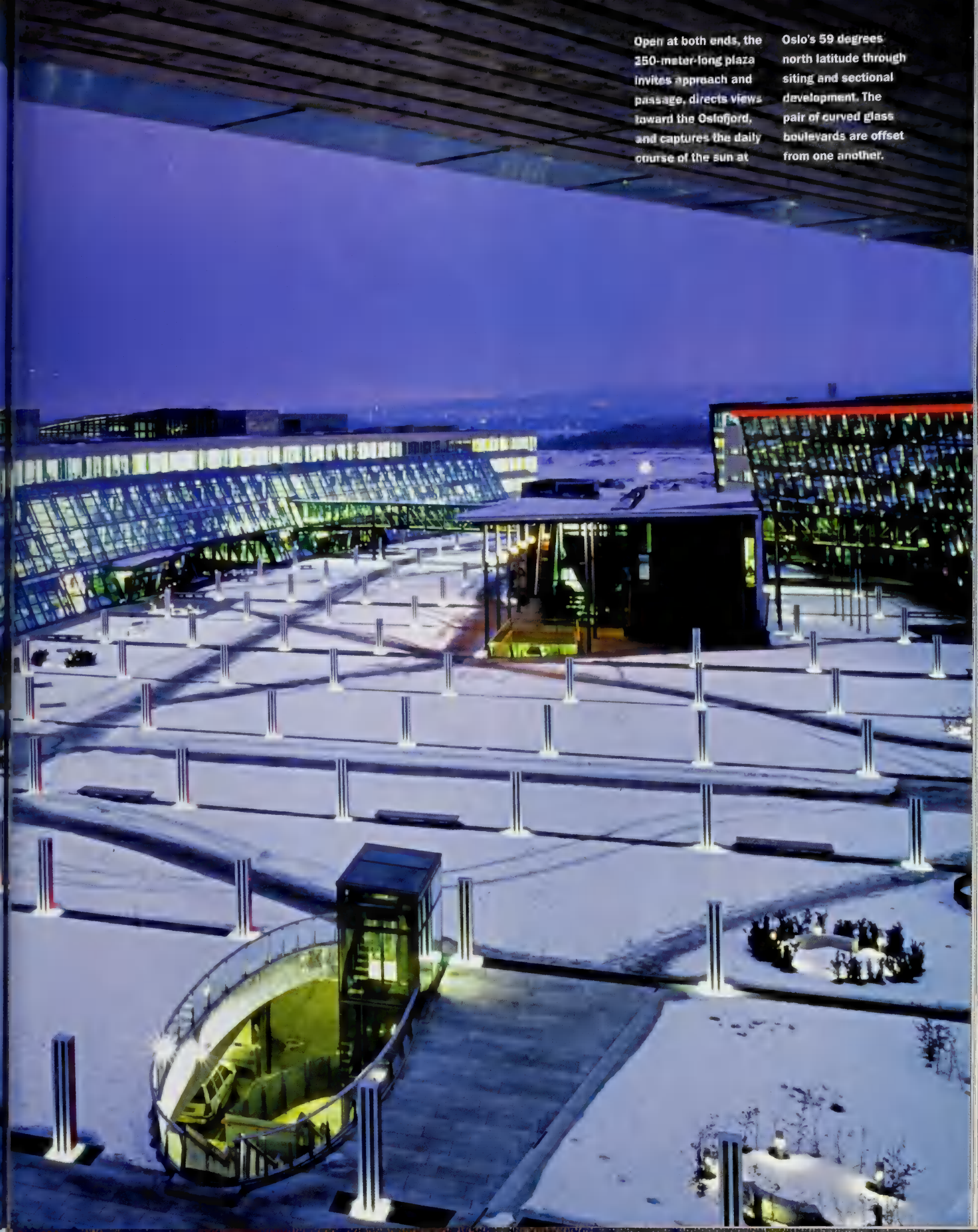
Telenor management's specific ambition was for "the most innovative workplace in Scandinavia," one reflecting the social possibilities inherent in an open information-technology network: dynamism and fluidity, to be sure, but also a spirit of transparency, invitation, and diversity. The 148-year-old company, having evolved from one Norwegian telegraph line in 1855 to the world's largest operator of mobile satellite services, also foresaw the need for a new building to change and adapt as Telenor itself developed over time.

Telenor's consolidation effort toward such a headquarters simultaneously addressed its desire for a more singular, identifiable corporate location—and its aim to reduce both direct and indirect energy-consumption costs. Equally, the concurrent shift in workplace culture to the desired "office of the future" could also be accomplished more effectively and comprehensively during a transition to a new, collective building. Lastly, the acquisition of property at Fornebu—the site of Oslo's former international airport terminal and runways, now planned and developed as a mixed-use precinct for information-technology and residential uses—provided Telenor with a significant, centrally located site, spectacular in its natural setting and rich in metaphorical potential.

However, the architectural siting and shaping of the entirety of the 158,000-square-meter complex emerged from the winning entry to Telenor's 1998 design competition, authored by NBBJ Architects (USA), led by Peter Pran, design principal, and Scott Wyatt, partner in charge; and two Norwegian collaborators: HUS Architects, led by Bjorn Sorum, and PKA, led by partner Per Knutsen.

Project: *Telenor Headquarters, Fornebu, Oslo, Norway*
Architect: *Joint venture, NBBJ-HUS-PKA. Joint venture architectural board—Scott W. Wyatt, FAIA, NBBJ, partner/board chairman; Tom Forsberg, HUS, principal/board member; Per Knudsen, PKA, partner/board member*
Architectural team leaders: *Peter Pran, design principal/design group leader; Jan Storing, responsible architect/lead planner; Jonathan Ward, design principal/team leader; Jin Ah Park, design principal/team leader; William J. Nichols, principal/project executive (inception to engineering); Thomas J. Morton, AIA, principal/project executive (engineering to completion); Erik Lind, architect/team leader/deputy project executive (construction); Bjorn C. Sorum, responsible architect/project architect; Annema Selstrom, Christian Sundby, architect/team leaders*





Open at both ends, the 250-meter-long plaza invites approach and passage, directs views toward the Oslofjord, and captures the daily course of the sun at Oslo's 59 degrees north latitude through siting and sectional development. The pair of curved glass boulevards are offset from one another.





1. *Main reception*
2. *Offices*
3. *Atrium*
4. *Reception*
5. *Learning center*
6. *Cafeteria*
7. *Fitness center*
8. *Telenor shop*
9. *Kiosk*
10. *Customer center*
11. *Visitor parking*
12. *Service road*
13. *Pedestrian/cycle path*
14. *In/out to under-plaza parking*
15. *Service yard*
16. *Villa Harelokken*
17. *Telenor Plaza*



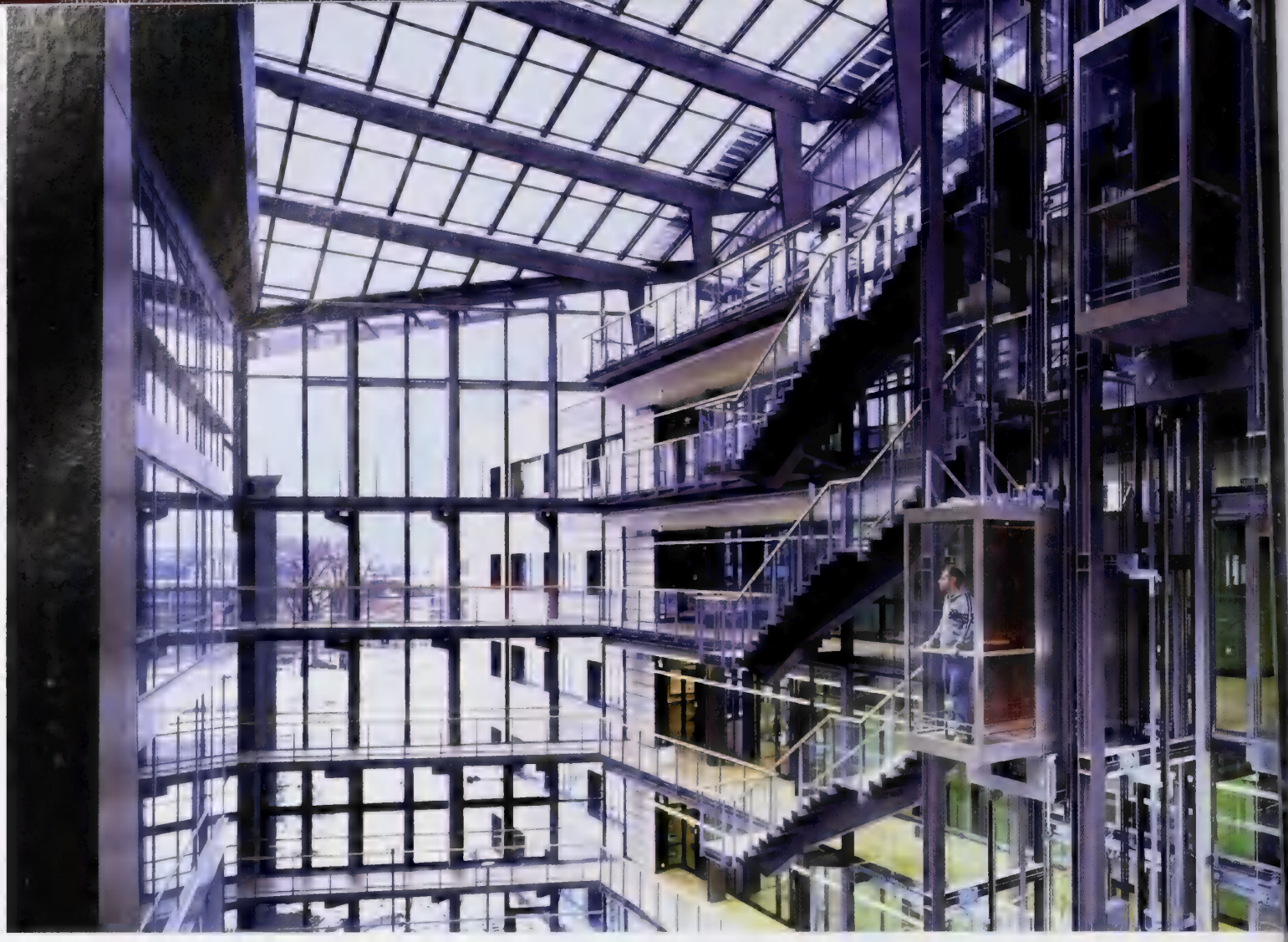


BOULEVARD AND ATRIUM SECTION

1. *Offices*
2. *Atrium*
3. *Reception*
4. *Boulevard*
5. *Plaza*
6. *Meeting room*
7. *Service*
8. *Service road*
9. *Parking*
10. *Learning center*
11. *Bridge connecting north and south*
12. *Classroom*
13. *Large seminar/ gathering space*



In a symbolic layering of technological history and artifacts, the treelike configuration of plaza (opposite), boulevards (right and opposite), and branching workplace units (site plan, opposite) has been laid over and aligned with the northwest–southeast orientation of the former airport main runway in two offset sequences. Each boulevard is interrupted at ground level by an open pass-through that gives local residents pedestrian access through the complex.



For Pran, the Telenor project is "a new symbol of technology and culture." Working with architects Jonathan Ward and Jin Ah Park—ultimately the senior designers for Telenor—Pran has been part of an effort at NBBJ that over the past five years has produced a new generation of 'firm-defining buildings,' as partner Wyatt calls them: These include the Reebok World Headquarters in Boston (2001), for instance, and now Telenor. Strategically, the project represents NBBJ's first significant foray into Europe; more importantly, asserts Wyatt, the Telenor commission signifies another level of ambition in corporate design: "This is well beyond a brand statement for Telenor—this is a building that seeks to encourage more creative thought and more effective decisions."

Although in dramatic siting and sheer volume, the Telenor design commands attention—the headquarters is the largest of any Scandinavian company's—NBBJ-HUS-PKA's design aimed for an understated identification of the corporation, attempting to resist monumentality through a recognition of the evident, sublime presence of the fjord, the historical traces of the airport, and a progressive diminution of forms into successively more intimate scales. As well, the daily occupation of the building by some 6,000 people suggested the possibility of a temporary urbanity, with the consequent needs for outdoor and indoor, large and small public spaces in counterpoint to the stated program of 200 30-person-unit workplaces, with their emphasis on mobility and intimacy.

To respond to these multiple goals, as senior designer Jonathan Ward describes the design process, the design team used "a simple tree metaphor." In a symbolic layering of technological history and artifacts, the treelike combination of plaza, boulevards, and branching workplace units have been overlaid on and aligned with the northwest–southeast orientation of the now-obscured Fornebu main runway in two offset sequences. Open at both ends, the 250-meter-long plaza invites approach and passage, directs views toward the Oslofjord, and captures the daily passage of the sun at Oslo's 59 degrees north latitude through siting and sectional development. The pair of curved glass boulevards are offset from one another: the northern volume has the height advantage and tilts dynamically into the courtyard. The length of its cornice is defined by an ambitiously scaled Jenny Holzer installation, an unending streamer of red LED phrases. Two stories shorter, the southern boulevard's glazing inclines away from the plaza, allowing for a more complete sweep of the sun. Each boulevard is interrupted at ground level for an open pass-through, making it possible for local residents to walk through the complex.

The plaza coordinates all arrivals, whether coming by automobile, public transportation (currently city bus service, but a light-rail station is already planned), or on foot from adjacent residential areas. Telenor decided early on to limit the amount of parking spaces to 1,700 and created a rotating system of employee parking passes; the design places 1,500 spaces into a two-level structure directly beneath the plaza. Anyone arriving by car ascends by stair or elevator to the open-air court.

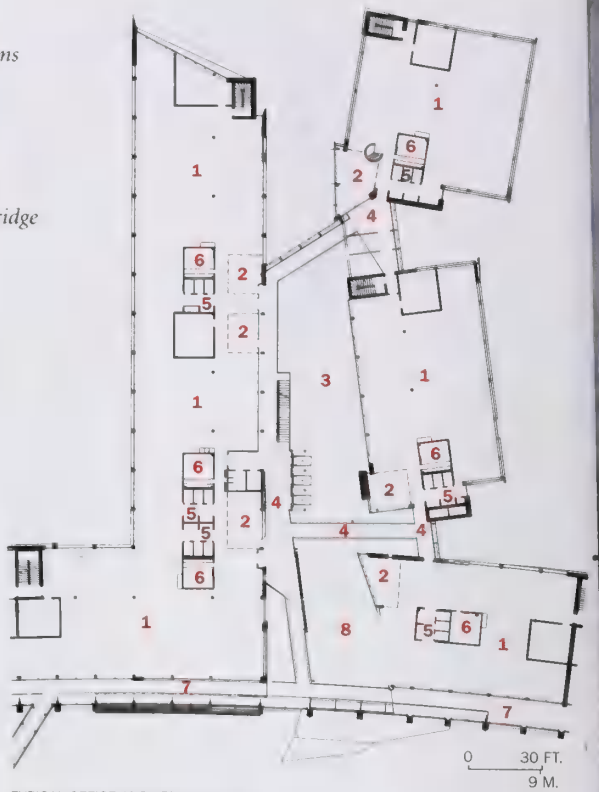
The artificial plateau of the plaza is occupied by the prismatic form of the education center, partially surfaced in glass panels designed by the Norwegian artist Jon Arne Mogstad. A grid of colored-concrete pylons strides rhythmically across the landscape—artist Daniel Buren's



deral law in Norway quires that workers ust be no farther an 9 meters (29.5 et) from a window, nd a worker situated rther than that dis- nce may only work hours a day. Thus, e designers created elenor as a series f thin, glass-and- avertine-sheathed olumes, demonstrated the seven-story- igh glass atria found each of the curving lazed boulevards (this pread).



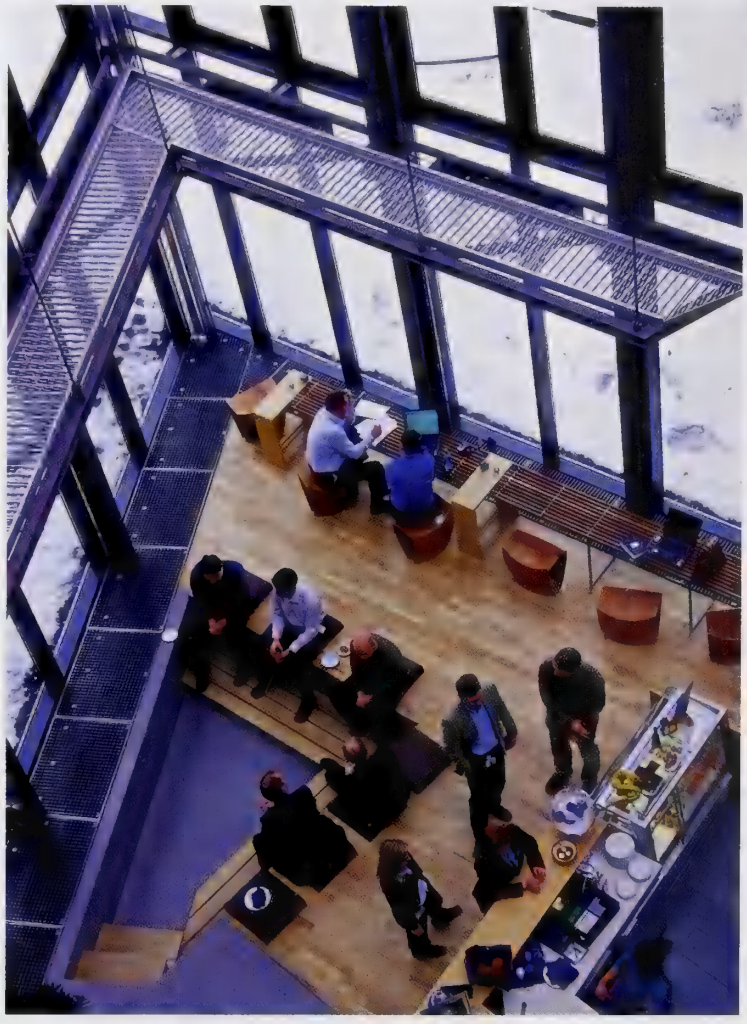
1. *Offices*
2. *Meeting rooms*
3. *Atrium*
4. *Bridges*
5. *Bathroom*
6. *Service shaft*
7. *Boulevard bridge*
8. *Reception*



TYPICAL OFFICE AND ATRIUM PLAN

A glowing reception desk welcomes workers and visitors into one of the eight entrance atria (above). Interspersed throughout the entrance atria (below and opposite, top) are a number of cafés and cafeterias. These spaces have been shaped for sectional views through the interior and out into the landscape (below right), and each cafeteria is distinguished by a commissioned artwork.







appropriation and extension into civic presence of the parking structure's columnar supports. Areas for sitting, walking, and gathering are differentiated by textures and patterns of granite paving.

Interspersed throughout the boulevards' eight entrance atria are a number of cafeterias, cafés, kiosks, and other shops, all programmed with an eye to round-the-clock convenience and choice. These major spaces have been shaped for sectional views through the interior and out into the landscape, and each cafeteria is distinguished by a commissioned artwork.

As visitors and employees alike filter through the sequence of public spaces toward the branching office 'villages,' a scalar shift occurs: from the iconic 'gateway' of the international corporation—the arrivals plaza—to the ever more intimate (and arguably, more Norwegian) settings of social gathering and, ultimately, to the localized small-group atmosphere of the working areas. These shifts, however, are controlled and held in proportional relationship throughout the movement by a basic dimensional module of 2.4 meters (approximately 7.9 feet), used in divisions or multiples in all planning. Combined with the natural illumination requirements of the Norwegian building code, Telenor is essentially a series of thin, glass-and-travertine-sheathed volumes, in which the corporate ambition for openness and transparency in workplace activity is met literally by the materiality, illumination, and flexibility of the design and construction.

The collaboration among the Norwegian architectural and engineering partners, the Telenor administrative team, technical consultants, and a refined selection of renowned artists, was significantly broader and more complicated than that of a more conventional commission inside the U.S. "We made the collaboration intentionally messy," says partner in charge Scott Wyatt, "and it was difficult—but only because people cared as much as they did." In the end, through the collaboration, the development of Telenor as "Nordic architecture," or even "Norwegian architecture," was overtaken by more precise and focused attention to the physical specifics of the site, the innovative ambitions and egalitarian character of the client, and the combined talents and resources of the collaborators—arriving by way of this panoramic perspective at a project collectively better than that which would have been produced by more discrete, individualistic means.

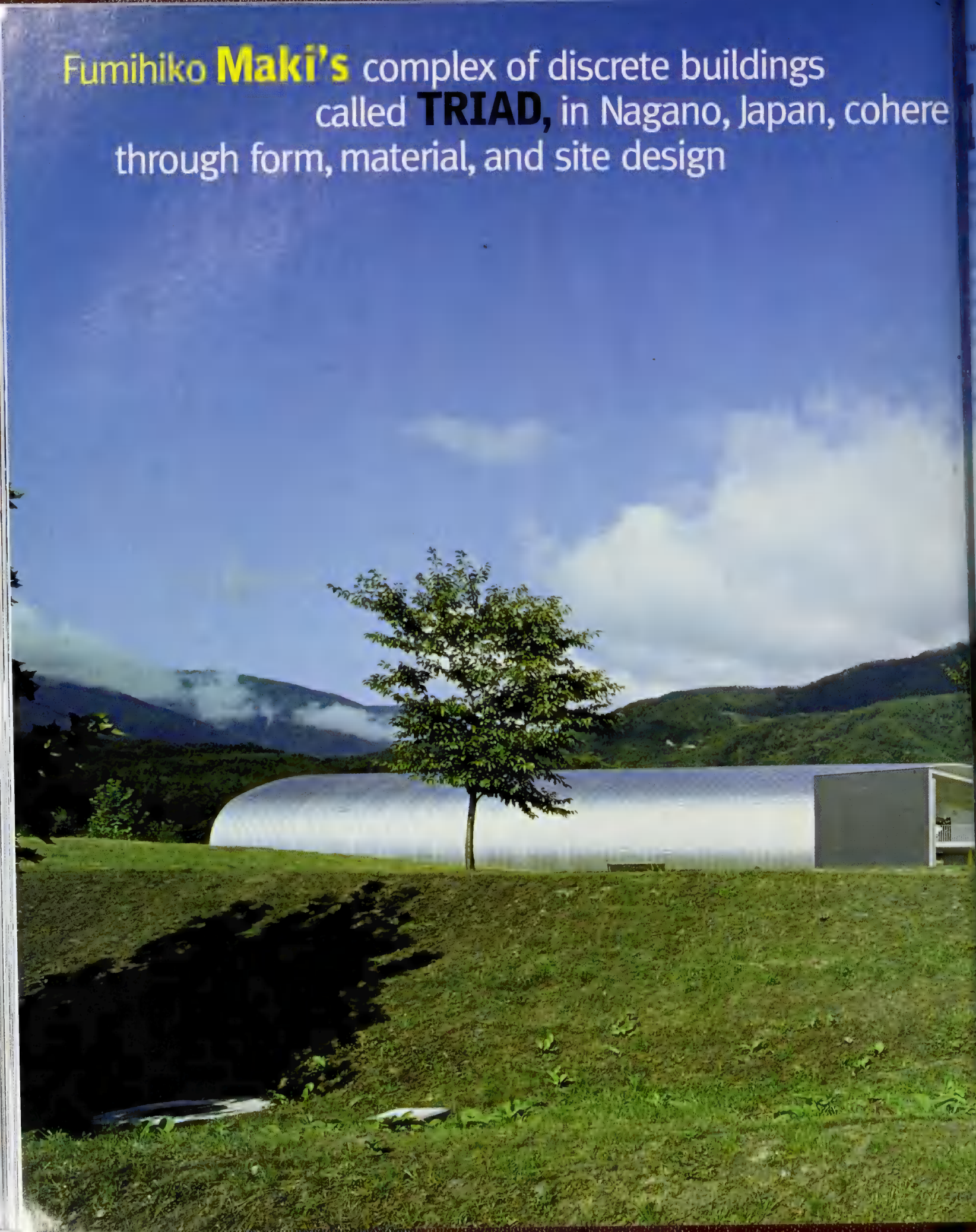
For Peter Pran, the Telenor project represents specific and profound questions of identity, architecture, and representation: "On the one hand, the most important issue is what our work does for Telenor—yes, providing a new identification for the company, and inspiring their employees—but there is still then the Norwegian physical and cultural context. We've sought to make a building that belongs to the site and reflects the society within which the corporation sits, but also one that is transformative of all three. We believe architecture can do this." ■

Sources

Glass: *Arbeidsfelleskapet BFP (facades and roofs)*
Concrete/steel: *Spenncon (prefab)*
Doors: *Skauan (admission gates and revolving); Robust Staldorer (metal); SSC Joinex (wood)*
Locksets: *TrioVing*
Elevators: *Reber Schindler Heis*

www For more information on the people and products involved in this project, go to Projects at **architecturalrecord.com**.

Fumihiko **Maki's** complex of discrete buildings called **TRIAD,** in Nagano, Japan, cohere through form, material, and site design



By Naomi Pollock

It is often said that architects revisit the same themes throughout their careers. In the late 1950s, Fumihiko Maki began his study of collective form—groups of buildings that cohere into an urban whole—while he was a Graham Foundation Fellow traveling in Southeast Asia and the Middle East. Seen as an alternative to the then-popular megastructure, this concept became a focus of the Tokyo-based architect's practice, launched nearly 40 years ago. During that time, Maki has designed a vast range of projects across multiple continents.

One of Maki's latest explorations is Triad, a laboratory, gallery, and guardhouse for Harmonic Drive Systems, the manufacturer of precision decelerators and other instruments used in satellites, spacecraft, and telescopes. Though modest in size compared to the convention centers and campus complexes that have become Maki's bread and butter, Triad is rich in ideas accrued over years of contemplating collective form.

The project began when the company owner asked Maki to design a small, semipublic gallery for his private collection of paintings and other works by the Japanese artist Yoshikuni Iida as part of the company's campus. During the project's planning stages, it became apparent that Harmonic Drive Systems, headquartered in a 12-year-old factory in Hodaka, a town of 30,000 located 3 hours north of Tokyo, also needed a state-of-the-art facility to test and develop new products. Then the client decided to build a guardhouse for the entire enclave. As a result of the program's accretive growth process, Maki was faced with the question of how to combine three small but functionally unrelated pieces on a single 768,296-square-foot property.

Even in Japan, where a perennial shortage of buildable land results in some unbelievable programmatic pairings, Maki concedes this was a "very unique combination." Though the architect toyed with connecting the disparate pieces, in the end he proposed three independent structures. The guardhouse, a 355-square-foot rectangular box perched atop a gentle slope, contains a control room in front and a tatami-floored lounge in the back.

Encased in a curved steel skin, the 7,664-square-foot laboratory for experimental research in precision instruments includes a fabrication area whose internal conditions had to be carefully controlled. Buffering this room from external noise and climatic fluctuations are the entrance and delivery room at one end, and a testing room and mechanical space at the other. The gallery, a pitch-roofed, 3,810-square-foot structure with



The tubular laboratory seems to merge with the rectangular end of the art gallery in a complex whose forms echo the contours of the landscape.



The tubular-shaped laboratory (opposite and bottom left) is enclosed in a thin skin of welded standing-seam steel sheets, with a steel honeycomb core and a thick concrete floor. The reinforced-concrete art gallery is marked by a large glazed portal (left) leading to simple exhibition spaces (below). The end wall of the reinforced-concrete guardhouse (middle left) is frosted glass.









SITE PLAN



a round corner, consists of three exhibition spaces: one for sculpture, which opens onto a terrace with spectacular views of both the town below and the Japan Alps in the distance; one for paintings; and one for other small works. Distinguished by their varying ceiling heights and indirect natural lighting, the three galleries spiral around a core containing art storage, rest rooms, and a machine room. As if blown apart by centrifugal force, each building is a freestanding element with its own distinct character. Instead of choosing iconographic architectural forms and materials, Maki specified those with an abstract, sculptural quality. While there is no overt framework, site conditions and client requirements determined each piece's position.

To monitor the comings and goings at the existing factory, the guardhouse had to be near the compound's entrance, separated from the lab and art gallery by the company's internal access road. And the lab had to be close to the factory; it is tethered to it by a pedestrian bridge. But it is Maki's subtle site intervention—a combination of perimeter berms and open space modulated by elliptical mounds made of grass-covered earth or Cor-ten steel plate—that cements the pieces in place. "The residual space between forms is just as important as the buildings themselves," Maki explains.

The three buildings are also bound together by formal and material connections. The lab's curved section, which facilitates the airflow required by the facility's highly sensitive machinery, is echoed in the gallery plan. In turn, the gallery's rectilinear display space relates to the guardhouse's overall boxy shape. In a similar vein, the lab's steel skin ties it to the gallery's tilted metallic roof, while the gallery's concrete and patterned glass walls connect it to the guardhouse, whose frosted-glass window faces the street.

Maki notes that while it would have been easy to use the same exterior materials on all three buildings, the contrasting textures and surfaces yielded a more interesting conversation between the pieces, as well as with their larger context. Sharp edges, whose precise execution politely nod to Harmonic Drive's sophisticated products, delineate the buildings and set them apart from the powerful natural setting. The gallery's walls, an all-in-one structure and enclosure, are 12 inches thick, while the lab's skin consists of 0.4-mm-thick steel sheets with a 4-mm-thick steel honeycomb in between. The steel shell, which supports the building, is composed of prefabricated pieces bolted together on-site and coated with fluorine to conceal the joints. The metal skin juts out beyond the body of the building to act as an entrance canopy, its diagonal slice revealing its remarkable thinness.

Because Maki used a similar system for the subarena roof of the Fujisawa Municipal Gymnasium (1984), he was familiar with steel-plate cladding; but in addition to technological know-how, it took careful craftsmanship and weekly site visits by Maki's staff to pull this off. While each of the three components of the complex is unique and merits attention, together they result in a totality that is a lot more than a simple sum of its parts. ■

Project: *TRIAD, Harmonic Drive Extension Complex, Nagano, Japan*
Owner: *Harmonic Drive Systems*
Architect: *Fumihiko Maki + Maki Associates—Fumihiko Maki, partner in charge; Iwao Shida, Kei Mizui, Masaaki Yoshizaki, Junpei Ito, design team*
Engineers: *Delta Structural Consultants (structural); Sogo Consultants (m/e/p)*
General contractor: *Noguchi*

Sources
Steel frame and sandwich panels (lab): *Hagiura Industrial*
Steel roof: *Sanko Metal Industrial*

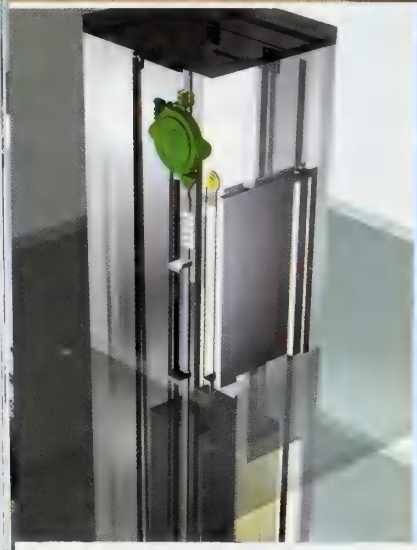
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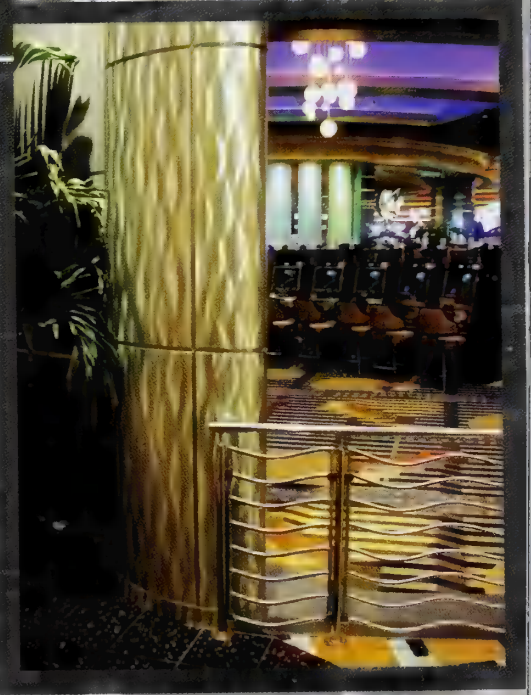
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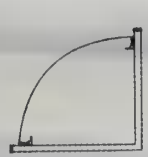
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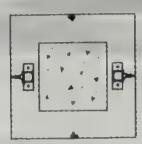




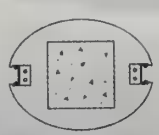
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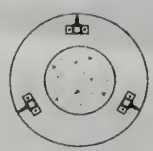
corner configuration



square 4 sections



oval with reveal 2 sections



round 3 sections

column covers
wall panels
room dividers
canopies

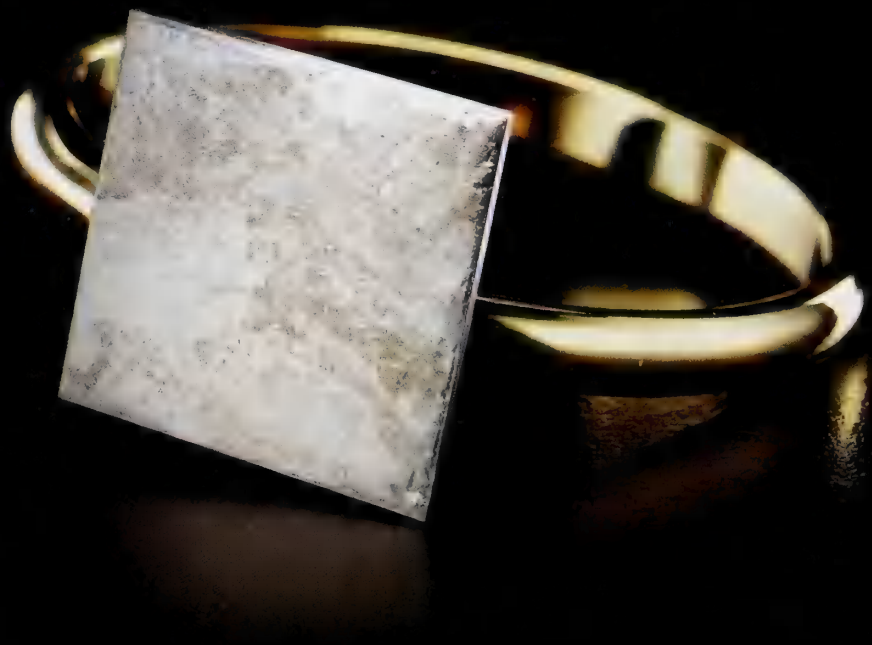
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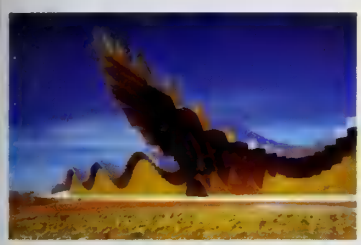
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WINERIES

Premier Cru Design

A NEW CROP OF WINERIES BY STAR ARCHITECTS SHOWS HOW THESE BUILDINGS CAN CAPTURE THE ROMANTIC ALLURE OF CULTIVATING GRAPES AND TRANSFORMING THEM INTO WINE.

By Clifford A. Pearson



1.

Laguardia, Spain

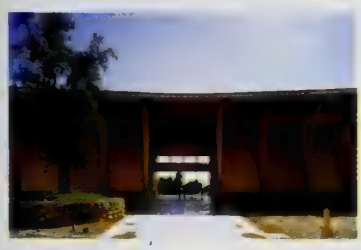
Santiago Calatrava integrated an undulating structure with the rugged landscape at the foot of the Sierra Cantabria in northern Spain.



2.

Westbank, British Columbia

Overlooking Lake Okanagan, Olson Sundberg Kundig Allen Architects created a hilltop village dedicated to making and enjoying wine.



3.

Paine, Chile

At the base of the Andes, José Cruz designed a building whose form expresses the sensual process of producing wine.



4.

Arínzano, Spain

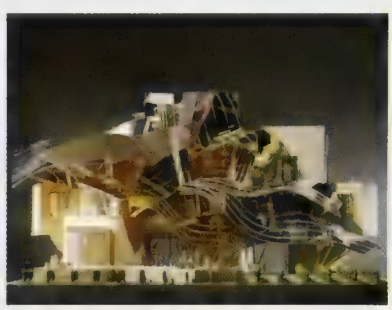
Rafael Moneo framed a cluster of old structures with a modern building that matches the stony soil of Bodegas Julián Chivite.

The romance of the grape has driven people to many things—poetry, distraction, and now architecture. It engages the senses and the spirit, a combination that architects find irresistible. From its role in religious ritual to the hushed tones it elicits from oenophiles, wine emits an aura of mystery. Capturing that quality—in a bottle or a building—is what wine making is all about.

Not long ago, though, winery buildings were production or storage facilities, humble in design and sturdy in construction. They were places of fermentation, not innovation, and they didn't show up on the pages of architecture magazines. Today, wineries are tourist destinations whose buildings help establish particular identities in the minds of the wine-buying public.

Now that wineries cater to day-trippers and even overnight guests, they need to impress. Owners have called in big-name architects and asked them to create memorable buildings. The challenge facing these architects is to design facilities that work both as tourist attractions and factories. While showing off the wine-making process is part of the new mission of many wineries, keeping camera-toting visitors away from forklifts and grape-crushing equipment is part of the job, too.

The best of the new wineries glorify the conversion of grapes into wine and connect this process to the place where it happens. Having grown up just 50 miles from where the Bodegas Julián Chivite now stands, Rafael Moneo brought an intuitive understanding of the physical setting to his new winery. Not far away, Santiago Calatrava's Bodegas Ysios captures the rolling hills of the southern Basque region in its roofscape and provides just the right visual punch. A few years from now, the Moneo and Calatrava buildings will be joined by a Frank Gehry–designed hotel for the nearby Marques de Riscal winery. In Chile, José Cruz found an elegant way of expressing the step-by-step process of making wine at his Bodegas Perez Cruz. And in British Columbia, Olson Sundberg Kundig Allen Architects created a village of buildings that evokes the picturesque tradition of wine-making communities. ■



Construction of Gehry's hotel at Marques de Riscal should start this year.

www For additional winery projects, and more information on the people and products involved in the following projects, go to Building Type Study at **architecturalrecord.com**.

Bodegas Ysios
Laguardia, Spain

1 **SANTIAGO CALATRAVA DESIGNS AN UNDULATING BUILDING WHOSE FORM AND MATERIALS HARMONIZE WITH THE MOUNTAINS AND EARTH.**

By David Cohn

Architect: *Santiago Calatrava, S.A.—Santiago Calatrava, principal*
Client: *Bodegas Ysios*
Engineer: *Santiago Calatrava, S.A.*
General contractor: *Gerrovial Agroman*

Size: *86,000 square feet*
Cost: *$5 million*

Sources
Structural wood: *Holtza*
Cedar cladding: *Javal*
Granite flooring: *Comarpi*

www For more information about the people and products involved in this project, go to Building Types Study at **architecturalrecord.com**.

Wine is a growing business in Spain (no pun intended). With international consumers discovering the great variety of Spain's wines, companies are investing heavily in the sector, including the huge firm Bebidas y Bodegas, which owns 600 different labels. Its latest investment, the Ysios Winery, located just north of the classic wine-growing region of La Rioja in the province of Álava, enjoys growing conditions that promise to yield high-quality wines. To give a distinctive image to this new label, the company turned to Santiago Calatrava for the design of its building.

Program

The newly planted vineyards (160 acres of *tempranillo* grapes) lie at the foot of the Cantabrian Range, just north of the fortified medieval hill town of Laguardia, amid an open countryside with extensive views. The 86,000-square-foot winery building is visible from the passing highway and the town. Calatrava's building takes advantage of this spectacular site, drawing casual visitors as well as organized tours of wine enthusiasts. The facility has a capacity of 1.5 million bottles a year and is designed for possible future expansion.

Solution

The architect faced the difficult task of making an industrial building a landmark with a limited budget of $6 million, or roughly $70 a square foot. Borrowing the terminology of Venturi, Scott Brown, and Izenour in their book *Learning from Las Vegas*, one might describe the task as making a roadside shed into a "duck," in the sense that its shape is derived more from a sense of showmanship than strictly functional concerns.



For the winery, Calatrava developed a repertoire of dynamic structural forms drawn from history, specifically a family of curves found in the thin-shell concrete vaults of Felix Candela and other engineers in the 1960s. Calatrava has explored many of these forms over the years in small-scale sculptural exercises, which he calls "research," then he uses them in architectural projects. One of his interests has been creating wavelike structures using straight construction elements.

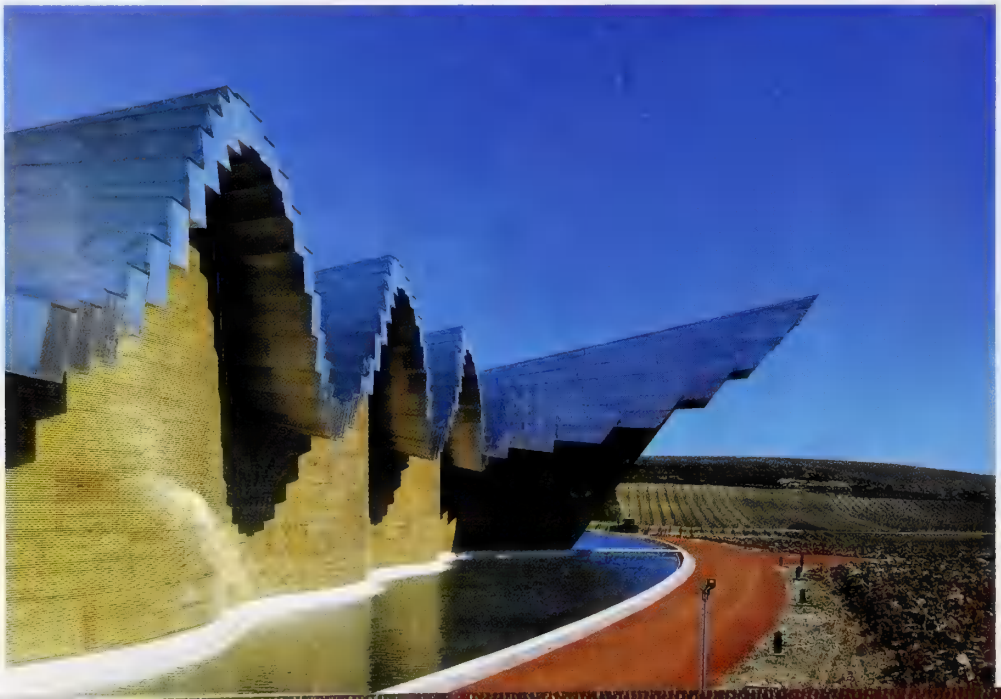
In the case of Ysios, the structure employs laminated wood beams of Scandinavian fir, which span 85 feet between the front and back of the building, rising up and down along the exterior walls in sine curves. Reflective aluminum sheeting serves as the finishing material for the roof. "The effect of sunlight on the roof creates a wavelike movement, like the changes in tonalities of the surrounding vineyards," says Calatrava.

David Cohn is RECORD*'s Madrid-based correspondent and the author of* Young Spanish Architects.



The central bay of the building kicks up a visual storm and provides a second-story space for dining. The building sits at the base of the Cantabrian Mountains (opposite).



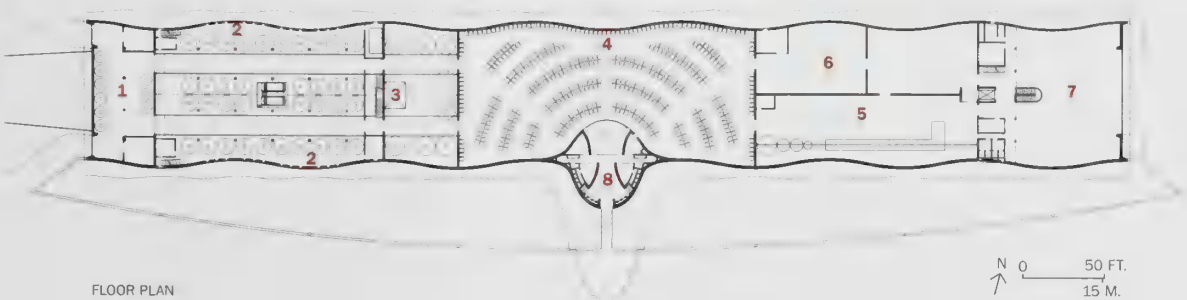


Calatrava designed the building so its rolling roof is assembled from straight wood members (above and left). The long load-bearing walls on the north and south also undulate, but they run parallel to each other, so roof beams remain the same size, except at the central bay. The east and west sides of the building are clad in corrugated aluminum (opposite, top).





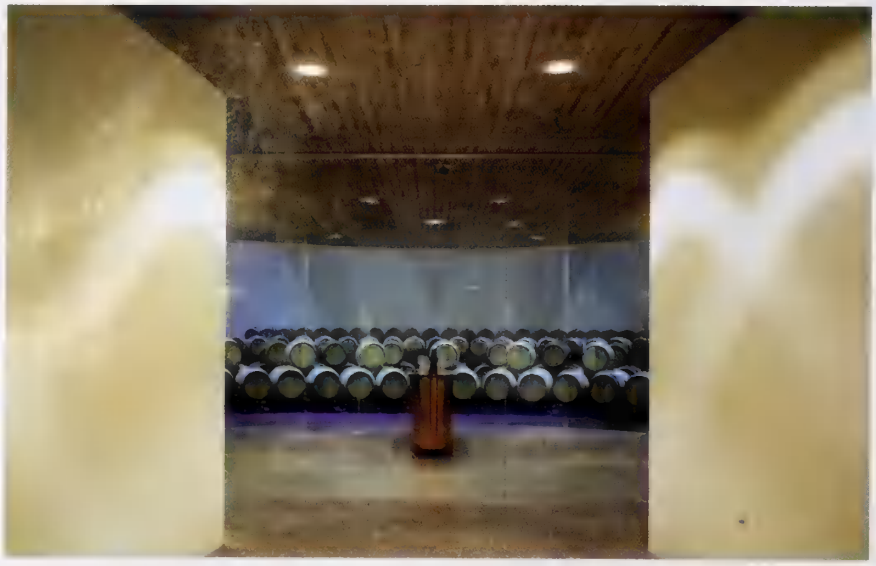
EAST-WEST SECTION



FLOOR PLAN

1. *Grape intake*
2. *Production*
3. *Barrel cleaning*
4. *Storage*
5. *Bottling*
6. *Bottle storage*
7. *Shipping*
8. *Visitors' lobby*

Calatrava kept the interiors of the industrial portions of the building simple so the dynamic roof structure takes center stage (right and below). The winery can produce 1.5 million bottles of wine a year.





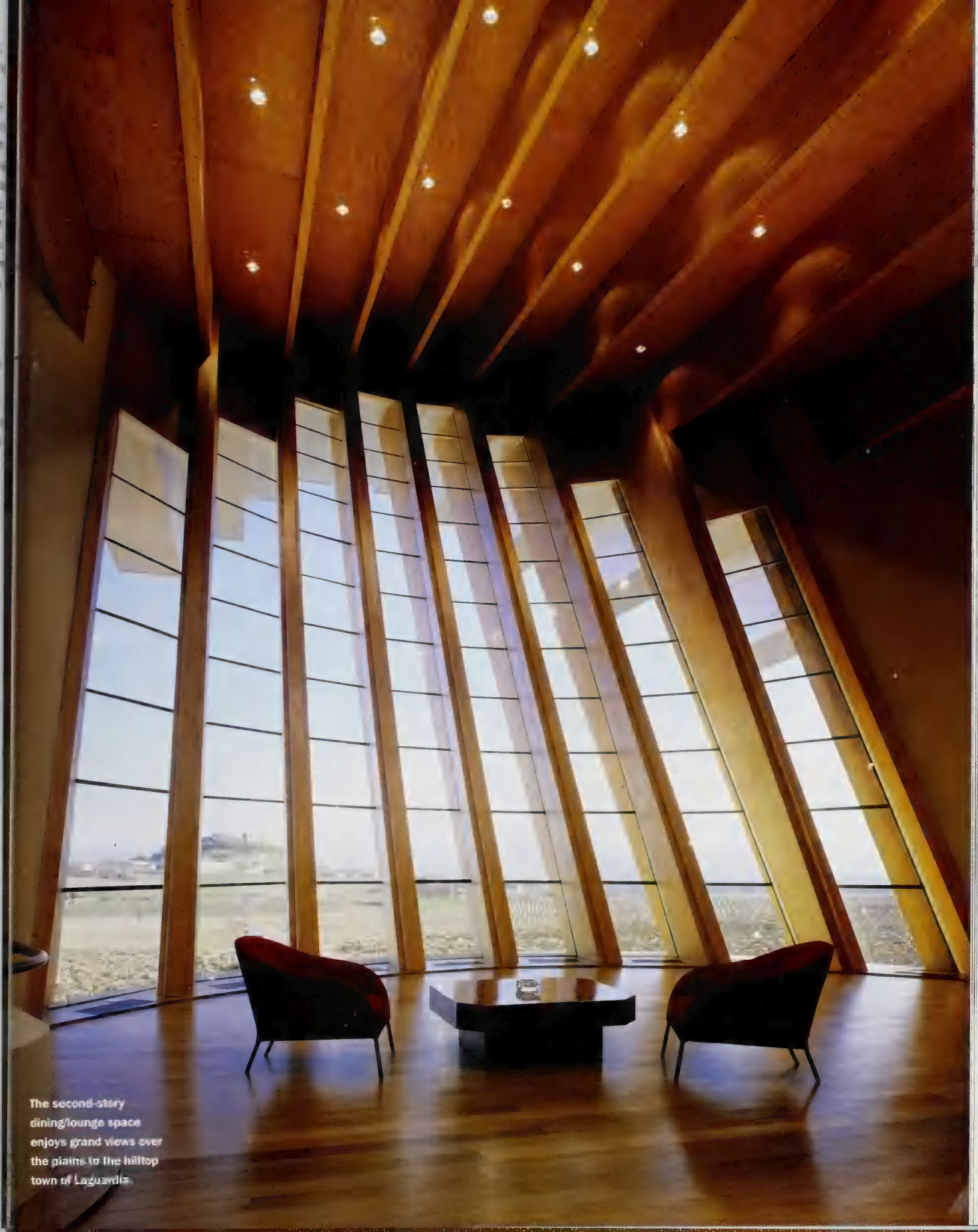
More than 640 feet long, the winery is oriented so its main elevation faces south, toward Laguardia and the highway. The north and south walls undulate in plan, which maximizes their stiffness while reducing their thickness. Calatrava finished the south facade with horizontal strips of cedar to match the tonalities of the earth under the vines, and he added a reflecting pool with a mosaic border of broken ceramic tiles that runs the full length of the building.

In a dramatic, baroque gesture, the architect applied an exaggerated kick to the building's central curves so the roof beams here project an additional 33 feet into the air. He likens this thrusting central bay to the mountain peaks behind the structure. The feature accommodates an upper-level dining room for visitors, who enjoy views through high, angled windows. An axial path through the vineyards leads to the visitors' entrance below the dining room and reveals the building's perfect alignment with the hilltop church of Laguardia a mile or so away.

The interior of the winery unfolds in a roughly linear sequence on two levels, with hoppers of grapes entering on the west and finished cases of bottled wine exiting to the east. Calatrava exposed the utilitarian nature of the interiors, specifying simple materials and finishes and allowing the swooping ceilings and zigzagging walls to provide the visual excitement.

Commentary

Flaunting its luminous curves, the Ysios Winery claims a place in the landscape with festive bluster. Its effects are large-scale and direct, grand theater rather than intimate conversation. Such an approach, though, runs the risk of provoking a *Wizard of Oz* effect if one steps off the central axis and peeks behind the scenes. But this tension is, after all, part of the attraction and mystery of the theater. And Calatrava's design captures that magic, conjuring an imaginative and animated architecture from base materials. ■



The second-story dining/lounge space enjoys grand views over the plains to the hilltop town of Laguardia.

Mission Hill Estate Winery
Westbank, British Columbia

2 **OLSON SUNDBERG KUNDIG ALLEN CREATES A HILLTOP VILLAGE FOR A WINERY THAT IS BOTH TOURIST DESTINATION AND MANUFACTURING FACILITY.**

By Sheri Olson, AIA

Architect: *Olson Sundberg Kundig Allen Architects—Tom Kundig, AIA, principal architect; Brett Baba, project manager; Les Eerkes, Gladys Ly-Au Young, project team*
Associate architect: *R. Martin Cruise Architect*
Client: *Mission Hill Family Estate*
Engineers: *John Bryson & Partners (structural); Yoneda & Associates (mechanical); Falcon Engineering (electrical)*
Consultants: *Janice Viekman, Orangutang Design (interior designers); Lovinger 2 (landscape); Brown Strachan Associates (acoustical); Ilium (signage)*
General contractor: *Selco Construction*

Size: *120,000 square feet*
Cost: *$21 million*

Sources
Precast concrete: *Advance Precast*
Aluminum curtain wall: *Custom by Competition Glass*
Copper roofing: *Tomtar Roofing and Sheet Metal*
Cabinetwork: *Berard Design Group*
Cabinet hardware: *Hafele*
Tables and chairs: *Custom by William Switzer, design by Janice Viekman*
Exterior landscape lighting: *BK Lighting*

WWW For more information about the people and products involved in this project, go to Building Types Study at **architecturalrecord.com**.

Screw caps are superior to corks, but in the wine industry image is everything. In 1994, Mission Hill, an upstart winery, won an international competition for best chardonnay but still had to battle British Columbia's reputation for bottom-of-the-barrel wines. "People weren't willing to open their minds to the possibility that great wines could be made in the Okanagan Valley," says proprietor Anthony von Mandl. The valley's geography makes such quality possible. Midway between Vancouver and Calgary, it is the northernmost reach of the Sonoran Desert. Glacial lakes run its length, moderating temperatures year-round and creating microclimates that allow grapes from around the world to thrive.

For a hilltop site overlooking 92-mile-long Lake Okanagan, von Mandl asked Tom Kundig, AIA, of Olson Sundberg Kundig Allen, to create an architectural destination. "Anthony wanted Mission Hill to be a place that once visited would not be forgotten," says Kundig. By raising the standard for all Okanagan wineries, von Mandl saw the potential for wine tourism like Napa Valley's.

Program

A winery is a strange mix of hospitality facility and petrochemical plant. On the public side are wine-tasting rooms, gift shops, and food concessions; on the business end are high-tech presses, huge stainless-steel vats, and bottling lines. "It's a complex program to resolve in terms of how wine making interfaces with the guest experience. People want to see the entire process, but we don't want them run over by a forklift," says Kundig. Likewise, the wine maker is leery of people bringing heat and light into the controlled environment of the cellar.





Solution

In 1981, von Mandl bought a distressed winery/brewery on Mission Hill and began a $21 million transformation. "The first phase was healing the damage done to the hilltop by an ugly existing warehouse," says Kundig. The old 35,000–square-foot building, now disguised by earth berms, ivy, and trees, recedes into the background, allowing the dramatic new public elements to step into the spotlight.

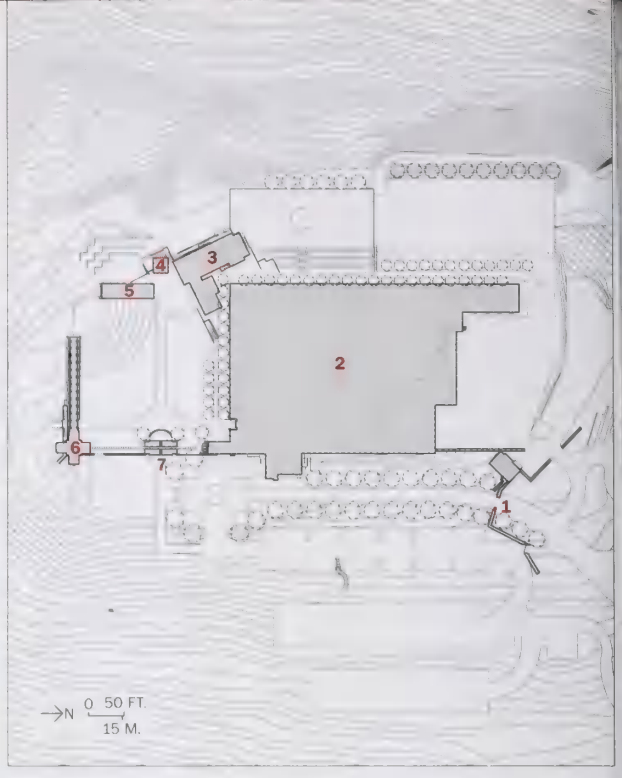
Visitors wind their way up the hill to a battered wall that recalls the fortified towns that stud the Rhine's wine country. This is the

Contributing editor Sheri Olson, AIA, is the architecture columnist for the Seattle Post-Intelligencer.



Visitors can enter the cellar from a concrete stair (this page) off the main terrace. The grounds also include a 12-story bell tower and loggias from which to admire the views (opposite).







1. *Entry gate*
2. *Production/offices*
3. *Visitors*
4. *Bell tower*
5. *Loggia*
6. *Tasting*
7. *Entry arch*

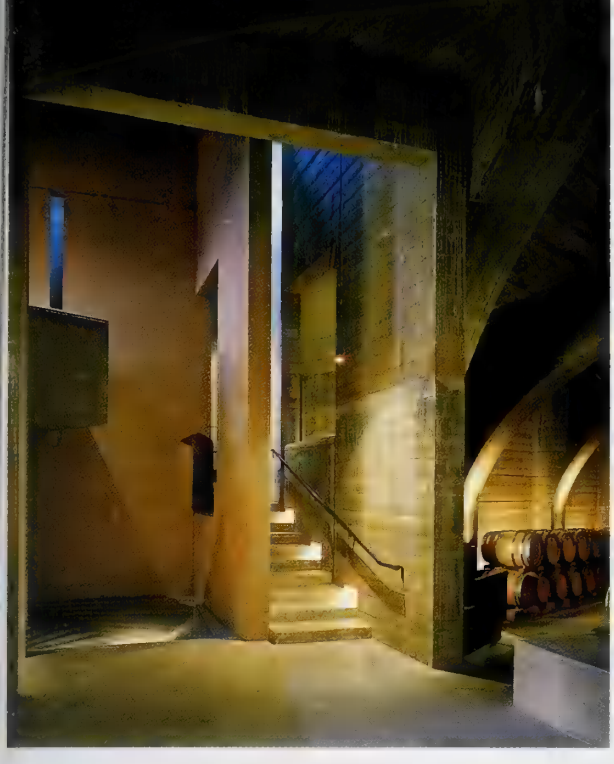
A split concrete arch (left in photo above) frames views of the tower and lake and serves as a formal entry to the terrace. Dining (left) and tasting are part of the winery's educational function.

first threshold in a series of outdoor rooms that shift from the scale of the Coast Mountains to the cultivated garden. "The architectural pieces are placed as thresholds and windows that conspire to reveal the natural landscape" says Kundig.

Visitors walk through a demonstration vineyard (the winery's 850 acres of vineyards, the second largest in Canada, lie 90 minutes south) before turning through oversize concrete arches into a central courtyard. The camouflaged warehouse forms the north wall, while loggias on the south and east break prevailing winds and provide a refuge from the intense summer sun. A grassy amphitheater opens the southeast corner to a view of the Monashee Mountains and a lake 600 feet below.

On axis with the main entry, a 10-story bell tower provides the focal point of the winery—connecting the underground cellars, the courtyard, and a panoramic view of the valley. The tower offers an instant historic reference, though updated by Kundig in interlocking precast-concrete panels. To unify the disparate pieces of the 40,000-square-foot project and save money, he developed a concrete kit of parts (arches, columns, and capitals).

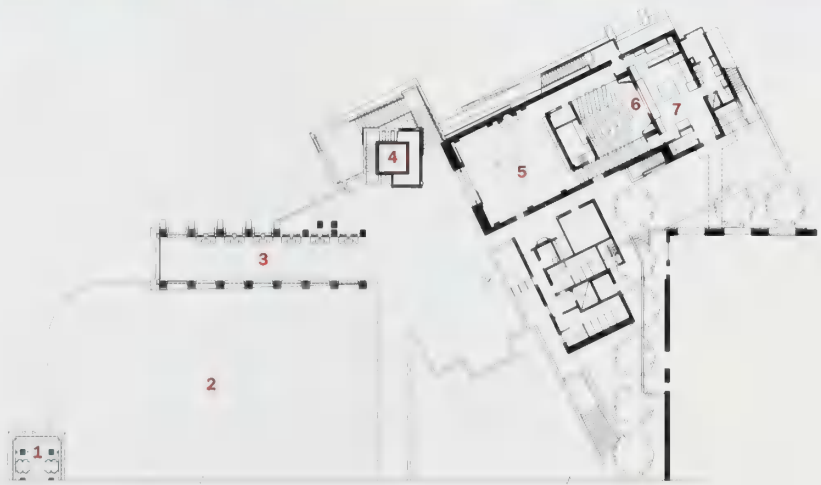
Reached by a stair that



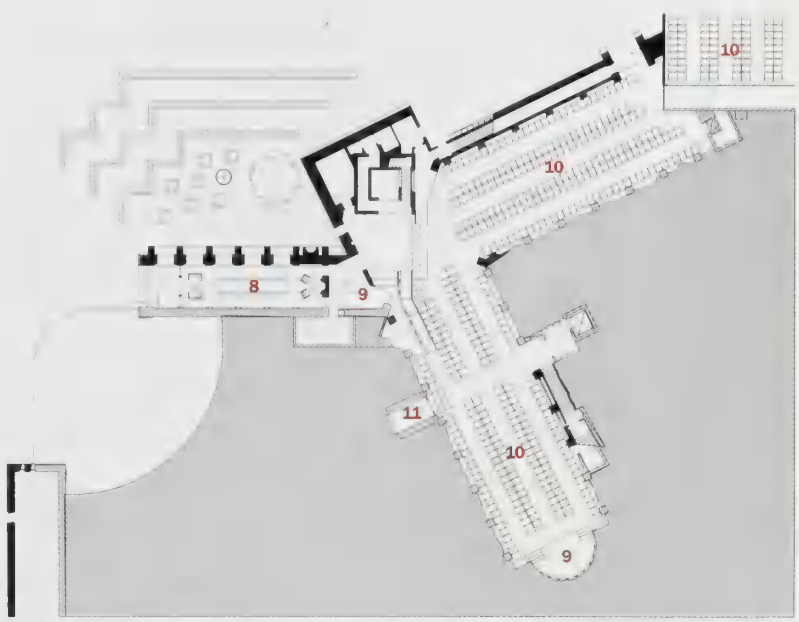


wraps around the base of the tower and entered through a rough-hewn yellow cedar door, the wine cellar serves as the highlight of the tour. Inside, light filters down from small, high windows in the tower, requiring visitors to pause for a moment until their eyes adjust to the dark. The intersecting geometries of the orthogonal tower and the cellar vaults create a Piranesi-like space with granite walls visible between the board-formed concrete ribs.

The architects abstracted a vaguely Mediterranean vocabulary, using poured concrete, granite, and metal to give it visual muscle. Rugged arches (above left and right) provide structural support and architectural drama to the cellar spaces.



GROUND FLOOR



CELLAR

N 0 20 FT. 6 M.

Commentary

Mission Hill has an abstract, picturesque quality befitting the site and the program. Its vaguely Mediterranean architecture may appear anomalous to Canada, but after a day in the 90-degree heat, the loggia and covered terraces offer welcome respite. The choice of materials (flat-seamed copper on the vaulted roofs, rough board-formed concrete, and ocher-colored precast concrete) adds a patina of time to the modern forms. The handcrafted bronze door handles, the toll of the bells, and the rolling vineyards are all part of the wine-country lifestyle marketed by Mission Hill. Adds von Mandl, "Wine is a metaphor for slowing down and enjoying the pace of life." ■

1. *Terrace*
2. *Amphitheater*
3. *Loggia*
4. *Bell tower*
5. *Reception*
6. *Media*
7. *Kitchen*
8. *Dining*
9. *Tasting*
10. *Cellar*
11. *Wine vault*

Bodegas Perez Cruz
Paine, Chile

3 **JOSÉ CRUZ GIVES ARCHITECTURAL EXPRESSION TO A FAMILY'S RELATIONSHIP WITH THE LAND AND ITS COMMITMENT TO WINEMAKING.**

By Clifford A. Pearson

Architect: *José Cruz Ovalle, Arquitecto—José Cruz Ovalle, Hernan Cruz Somavia, Ana Turell Sanchez-Calvo, design team*
Client: *Perez Cruz Family*
Consultants: *RG Ingenieros & Mario Wagner (engineering); Teresa Moller (landscape); Rolec (lighting); Ramon Goldsack (construction supervision)*
General contractor: *Ingelam; DLP*

Size: *65,000 square feet*
Cost: *$2.5 million*

Sources
Laminated wood: *Ingelam*
Roofing: *Metcom*
Wine tanks and piping: *TPI*

www For more information about the people and products involved in this project, go to Building Types Study at **architecturalrecord.com**.

Winemakers work at the mercy of the soil and the heavens, so it's no wonder wineries often demonstrate a special connection to the land. This bond between man and nature, building and setting, is especially strong in Chile, where old farms are called *fundos*, a term derived from the Spanish word for foundation. In this tradition, José Cruz Ovalle's new building for the Bodegas Perez Cruz (no relation) seems to grow expressively from the local soil.

Carved from the Perez Cruz family's 1,300-acre farm in the Maipo Valley 30 miles outside of Santiago, the 370-acre vineyard sits at the foot of the Andes Mountains and enjoys a temperate, almost Mediterranean climate. Not surprisingly, people have been making wines in the Maipo Valley since the 19th century.

When the Perez Cruz family decided to get into the wine business, it ran a competition among a few architects and was impressed by Cruz's feeling for the land. His previous work—such as the Hotel explora in Patagonia, designed with Germán del Sol [RECORD, October 1996, page 108]—showed an affinity to dramatic settings.





Program

While some wineries today are part hotel or restaurant or retail store, the Bodegas Perez Cruz is all production facility. Essentially a factory and warehouse for wine, the building could easily have been a dumb shed. No need to grab the tourist's eye with fancy architecture here. So Cruz's sinuous design isn't an appeal to the occasional visitor, but an organic expression of the activities performed inside and the character of the natural setting outside.

The building houses large spaces for fermenting wine in great stainless-steel vats, aging wine in oak barrels and glass bottles, and smaller spaces for research and tasting by the winemakers. It also accommodates the trucks used to deliver grapes and distribute bottles of wine to the rest of the world.

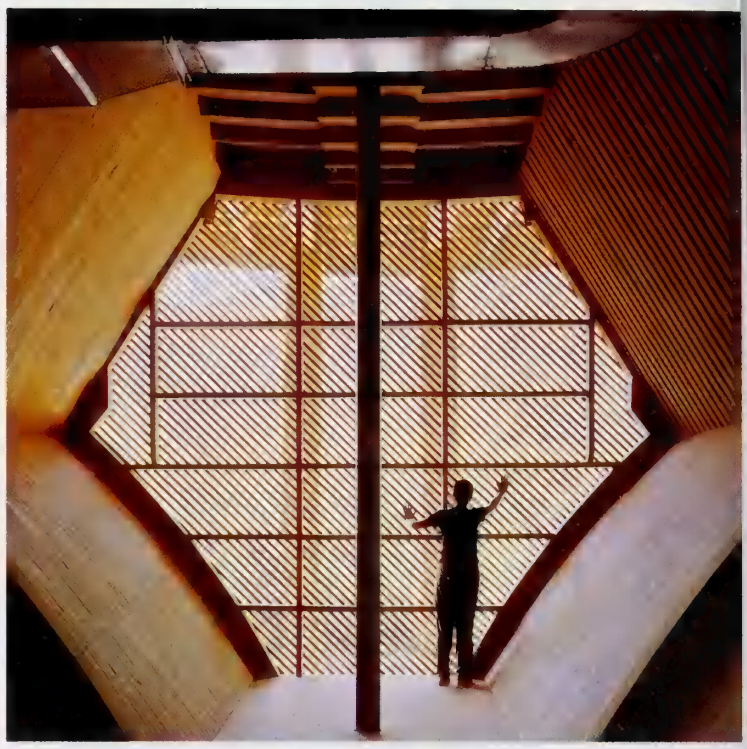
Solution

"I envisioned the building embodying the wine industry's relationship to both tradition and innovation," says

The curving form of the building along with its wood and stone elements (this page) help articulate an organic approach to siting and design. The 65,000-square-foot building sits on a 1,300-acre farm (opposite) where horses are also bred.







A raised walkway (below and right) runs between the barrel-vaulted halves of the building, which are expressed on the east and west elevations (above). The design lets air circulate around the winemaking spaces.

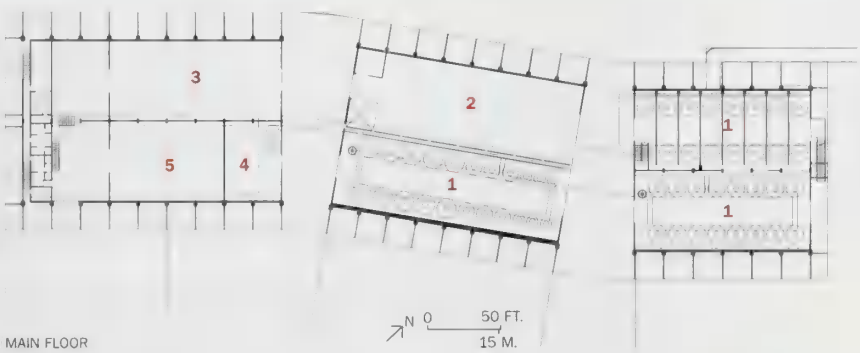


Cruz. "Without being figurative, I wanted the building to be shaped by the voluptuous nature of wine and materials like wood." So he designed the building as paired barrel-vaulted volumes that snake along the land. The barrel forms and use of wood recall time-honored elements in winemaking, while the building's bending columns and remarkable interior spaces point in a more idiosyncratic direction.

From a distance, the winery looks like one long building hugging the land. But as you get closer, you see that it is really three smaller structures connected by a common, double-jointed roof. Where the building bends, it creates two great covered patios where people can gather and enjoy a shaded outdoor space. Inside, some of the vaulted structure is kept open as double-height rooms, while some is divided by a mezzanine. A cellar runs under part of the building, offering space for secondary-fermentation equipment.

Cruz used laminated wood for structural elements such as columns, arches, and roof beams. He also created space between the building's distinctive barrel vaults and its roof so air can circulate and daylight can filter down from small clerestory windows and skylights. The architect says that all the wood used came from environmentally managed sources.

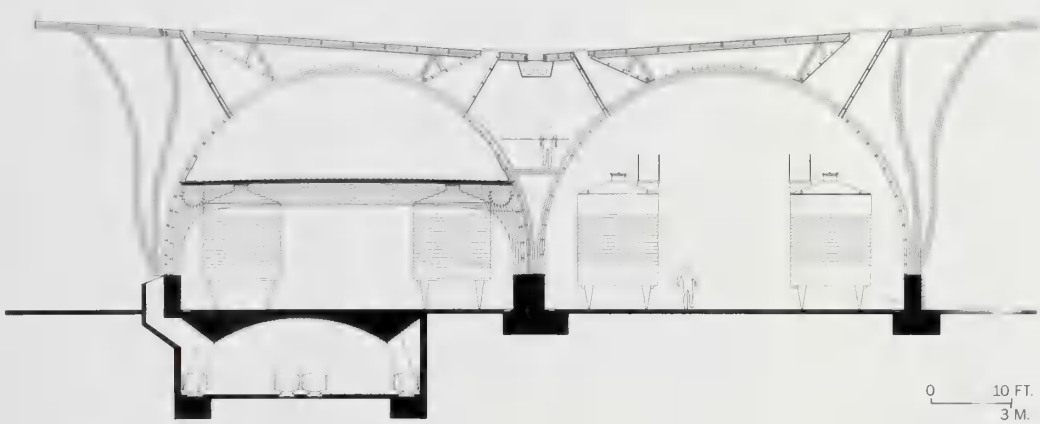




MAIN FLOOR

Air and daylight filter from above, so temperature and humidity can be controlled (above). The plan accommodates the linear process of winemaking, from fermentation to bottling and shipping.

1. *Fermentation*
2. *Barrel storage*
3. *Bottle storage*
4. *Bottling*
5. *Receiving*
6. *Mechanical*



CROSS SECTION

Commentary

Cruz, who moved to Chile from Spain in 1987, brought with him some of the lyrical Modernism of his native Barcelona. Using simple materials and elements, he and his wife and partner, Ana Turell, turned their building for Bodegas Perez Cruz into an eye-catching, muscle-flexing exercise in architectural engineering. Capturing the spirit of its Andean setting, the building also finds a way of expressing the sensual nature of wine without ignoring the more prosaic process of manufacturing it. The result is a building that seems to feel as right to the people who work in it as to the people who just visit it. ■

Bodegas Julián Chivite
Arínzano, Spain

4 **RAFAEL MONEO RETURNS TO HIS HOME TURF TO DESIGN A WINE COMPLEX THAT BLENDS VINTAGE STRUCTURES WITH MODERN ONES.**

By David Cohn

Architect: *José Rafael Moneo—Rafael Moneo, principal; Francisco González Peiró, Mariano Molina, Eduardo Miralles, Julio Oloriz, Pedro Elcuaz, project team*
Client: *Bodegas Julián Chivite/Julián Chivite Winery*
Engineer: *Jesús Jiménez Cañas (structural)*
General contractor: *ACR Construcciones*

Size: *110,000 square feet*
Completion date: *March 2002*

www For more information about the people and products involved in this project, go to Building Types Study at **architecturalrecord.com**.

When Rafael Moneo describes the setting for the Chivite Winery along the winding Ega River, in the northern Spanish province of Navarra, it is clear he is talking about a land he knows well. "This is where I was born," he says, speaking of the region's abrupt hills, impressive woods of oak, and high pastures of thyme and rosemary. "This is a landscape that I consider part of me."

It is also an important part of the Chivite family, which has been making wines here since the 1600s. Julián Chivite, the father of the present owners and a friend of Moneo's father, hired Moneo to design a new winery on an old estate known as the SeZorío de Arínzano, which happens to be just 50 miles north of Tudela, where Moneo was born 66 years ago.

Program

In 1989, Julián Chivite bought the SeZorío and its 740 acres to develop a new line of select red and white wines. The remarkable site included a compound with a medieval tower, an 18th-century mansion, and a Neoclassical chapel built in the 19th century. Moneo's task was to design an industrial plant that could produce as many as 225,000 bottles of wine a year and fit the structure into this rich historic and natural setting. The building needed to accommodate the latest technical

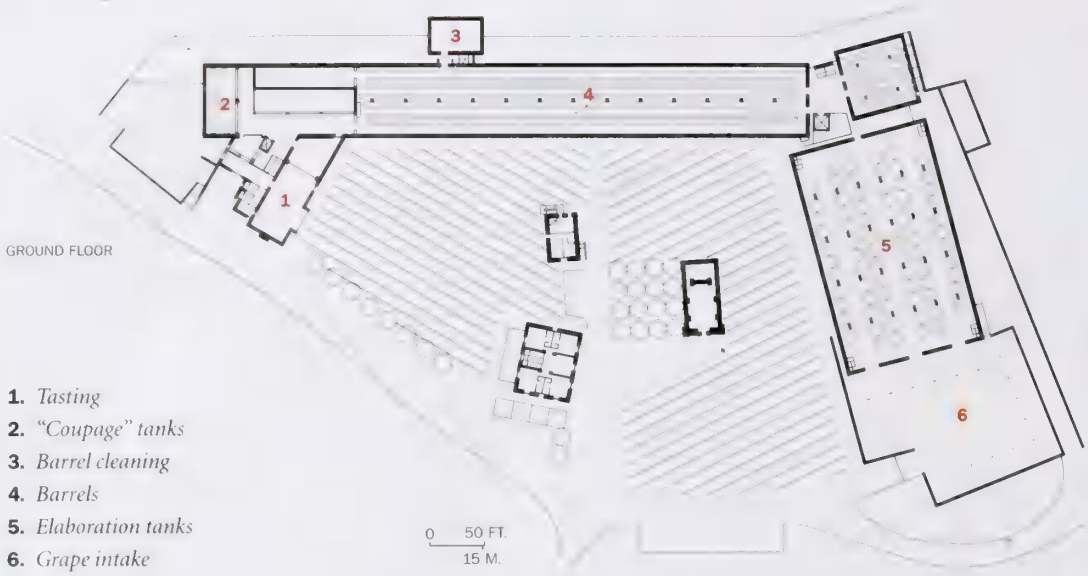




PHOTOGRAPHY © PAUL RAFTERY



Moneo's sprawling new building wraps around existing structures dating back as far as medieval times (this page and opposite, top). A concrete entry portal (opposite, bottom) frames a view of Montejurra Mountain.



GROUND FLOOR

1. *Tasting*
2. *"Coupage" tanks*
3. *Barrel cleaning*
4. *Barrels*
5. *Elaboration tanks*
6. *Grape intake*





advances in winemaking while offering a warm welcome to visiting wine buffs and clients.

Solution

Moneo conceived of the building as a backdrop to the freestanding historic structures, embracing them on three sides. Its longest arm is set against a low escarpment that defines the riverside terrace on which the buildings stand. The walls are sandblasted concrete that matches the stony soil in texture and color and has the same kind of white pebbly aggregates. Moneo expects the walls to acquire a stonelike patina over time, while the copper roofs will oxidize, blending with the foliage of the holm oaks behind them. The three wings of the building organize the production process in a linear sequence, from the loading of grapes at one end of the structure to the shipping dock and wine-tasting room at the other, an arrangement that clearly structures visitors' tours through the winery.

Procession is also important in Moneo's plan for the site as a whole. From a monumental concrete entry portal beside the highway, which frames a view of the nearby Montejurra Mountain, a dirt road runs through the vineyards to the river, where a narrow concrete bridge crosses into the winery compound. Moneo demolished several nondescript agricultural buildings on the site to make way for the winery. But he also restored the chapel, rehabilitated the stone tower as a residence for the estate's caretaker, and radically restructured the mansion as a four-room hotel for visitors, removing later additions and adding an outdoor pergola and a winter garden. The three structures (chapel, tower, and mansion) stand in a garden of newly planted grapevines.

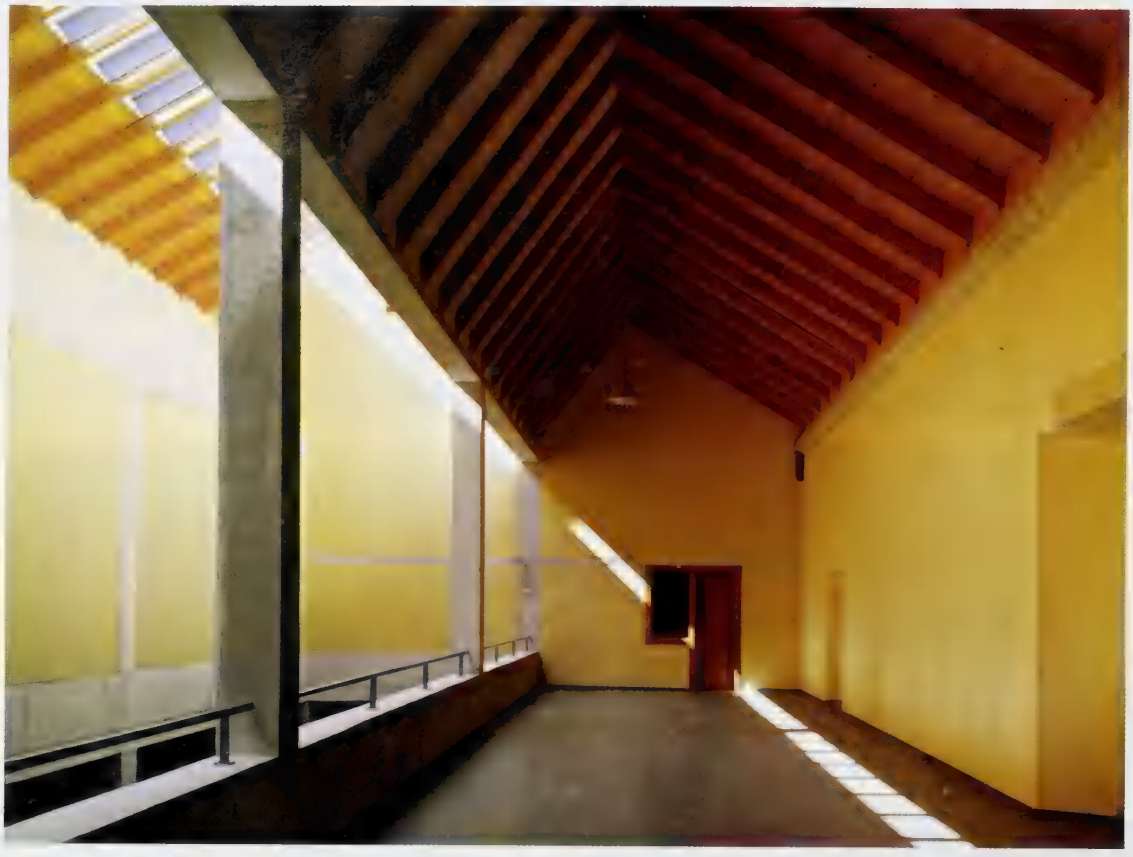
In the winery, Moneo uses a series of architectural incidents to mark the stages of a visitor's progress through the building. At the entry, the roof's five parallel gables project over a walled court, forming a protective canopy to



he new building (oppo-
ite and right in photo
bove) serves mostly
s a production and
torage facility. While
he architects tore
lown a few existing
gricultural buildings,
hey renovated the old
:hapel (center in photo
above), turned the
nedieval tower (left
center in photo above)
nto a caretaker's
house, and converted
the old mansion (left
in photo above) into a
small inn. A suspended
walkway (right) provides
a way of traversing a
storage area without
disturbing wine aging
in barrels.



Because wine must be protected from direct sun, Moneo used daylight sparingly, bringing it in mostly through narrow skylights (below) or clerestory windows, like the one in a fermentation room (bottom).





receive grapes from the fields. Forty 22,000-liter fermentation tanks dominate the large entry wing of the building, while beautiful solid-oak ceilings grab the visitor's eye in the following wing.

A small room for fermentation in casks, situated at the joint between the first two wings, features a nearly pyramidal roof that unfolds on its northern face to create a high clerestory window. Beyond this, in a 325-foot-long hall containing casks used for aging wine, long oak beams and steel tension rods radiate from short central concrete columns to support a pitched roof. This extravagant contrivance allowed the architect to thread a central raised catwalk between the beams, creating a magnificent promenade for visitors on their way to a skylighted bottling area and tasting room. The space is partially buried in the terrain, with a cellar for aging bottled wine situated below. The procession through the winery ends with a tasting room designed like an English great hall, complete with large fireplace and soaring timbered ceiling. A projecting window bay in the tasting room looks back over the winery compound and toward the entry.

Commentary

Moneo compares his use of wood in the winery to the wood-trussed ceilings of the council chamber in Alvar Aalto's Säynätsalo town hall of 1952. As in that work, oak beams and ceilings seek to relate the building to vernacular forms without disguising its contemporaneousness. At the same time, Moneo associates the sandblasted concrete walls with those used by architect Victor Eusa in many of his eccentric Modernist works of the 1930s in Pamplona, the provincial capital, where the young Moneo made his first contact with the world of architecture. As these contrasting sources suggest, Moneo's design for Chivite has many of the qualities of a seasoned wine, bringing together a variety of carefully cultivated associations to create an experience of complexity and sensibility. ■

8:10pm

Steelscape employee Tim Parker thinks of the answer to his customer's request for "innovative steel uses."



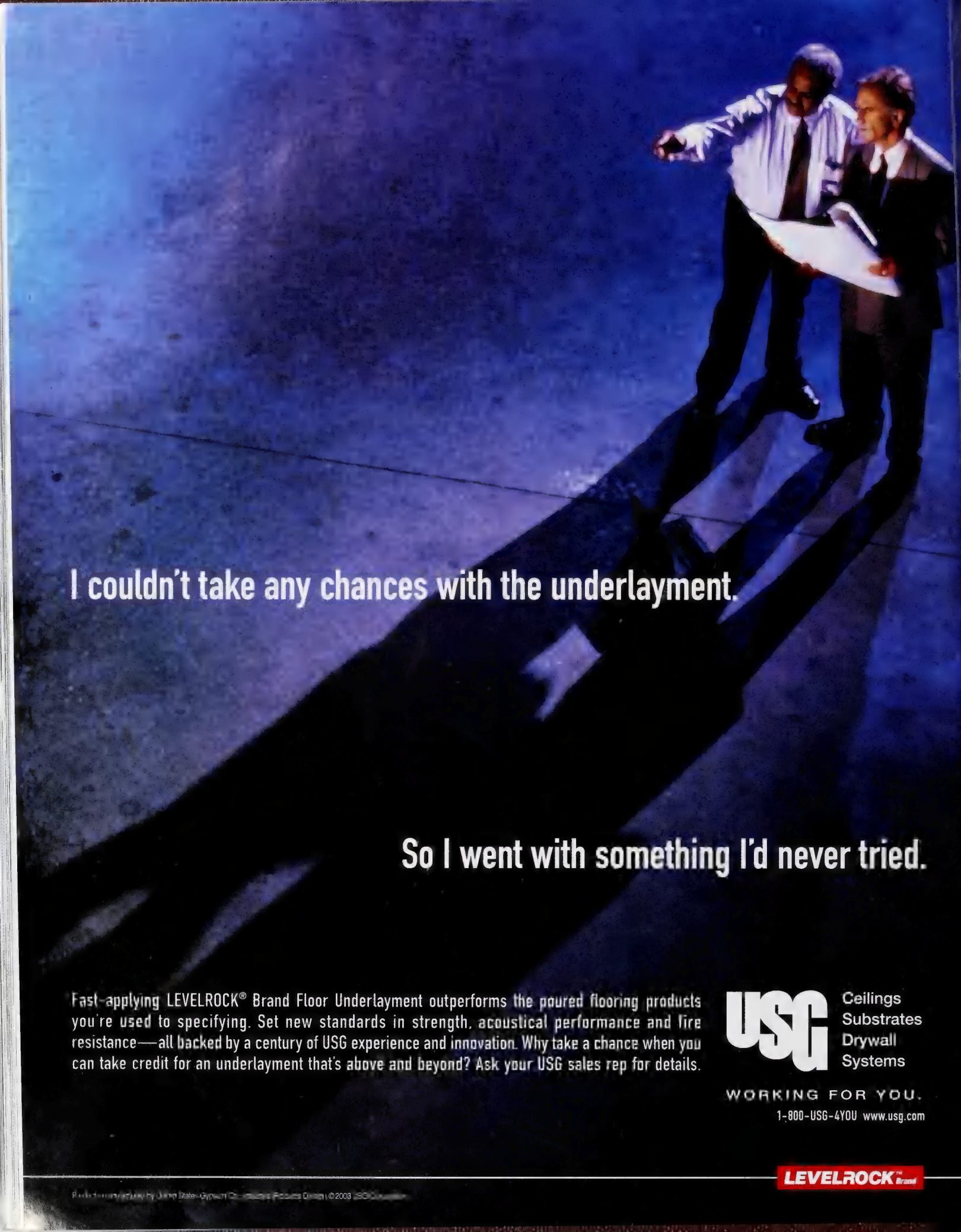


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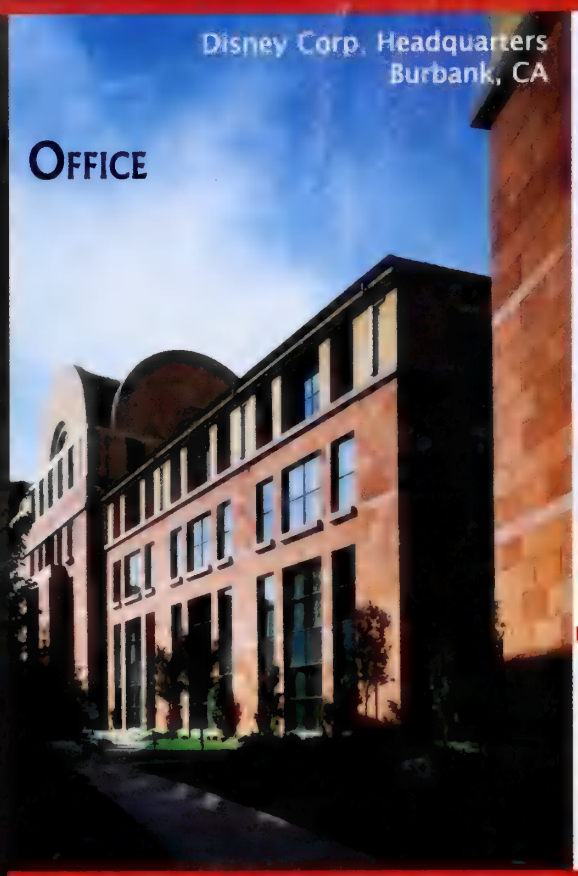
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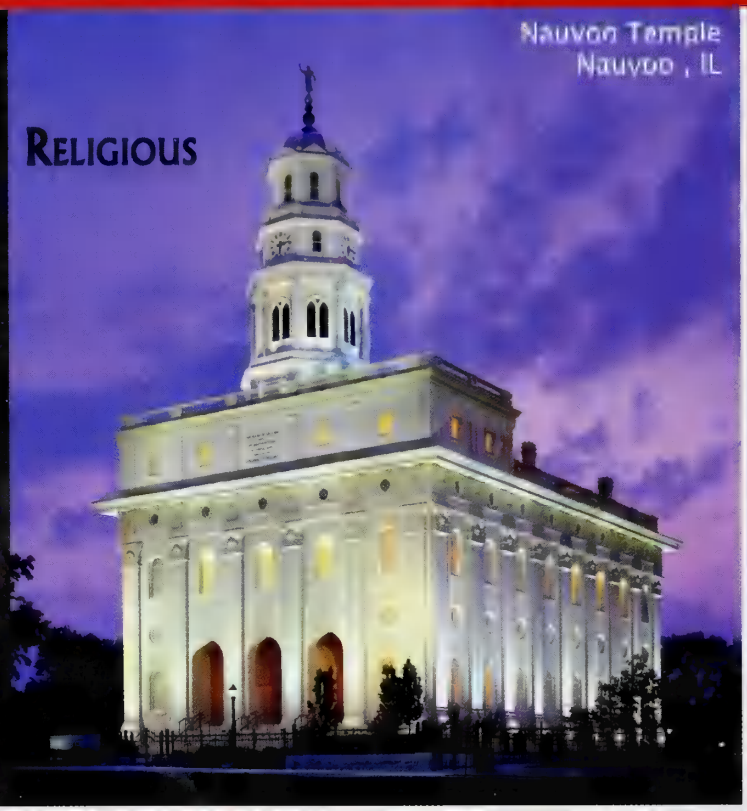
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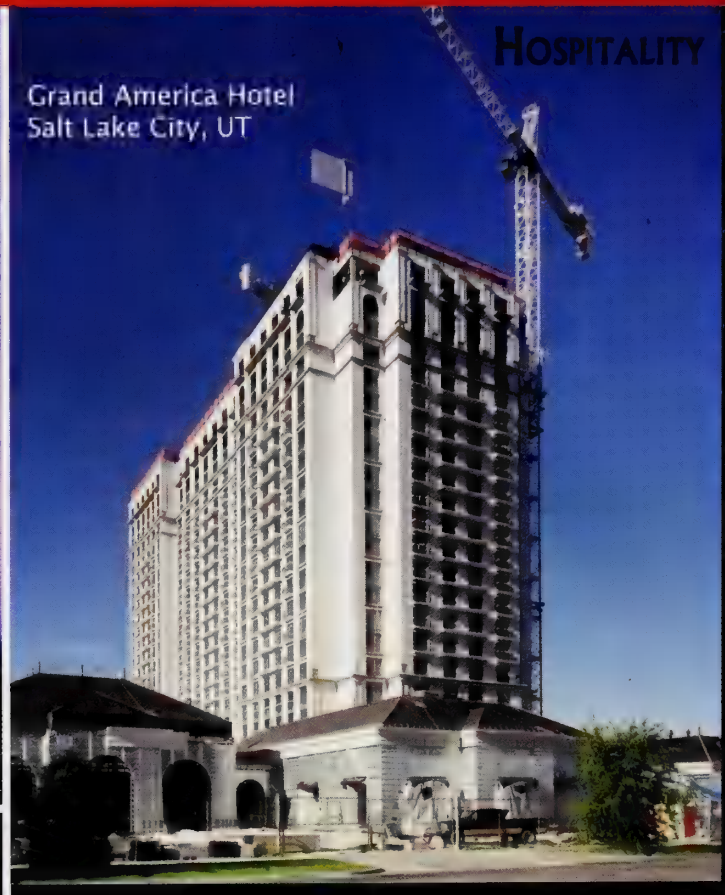
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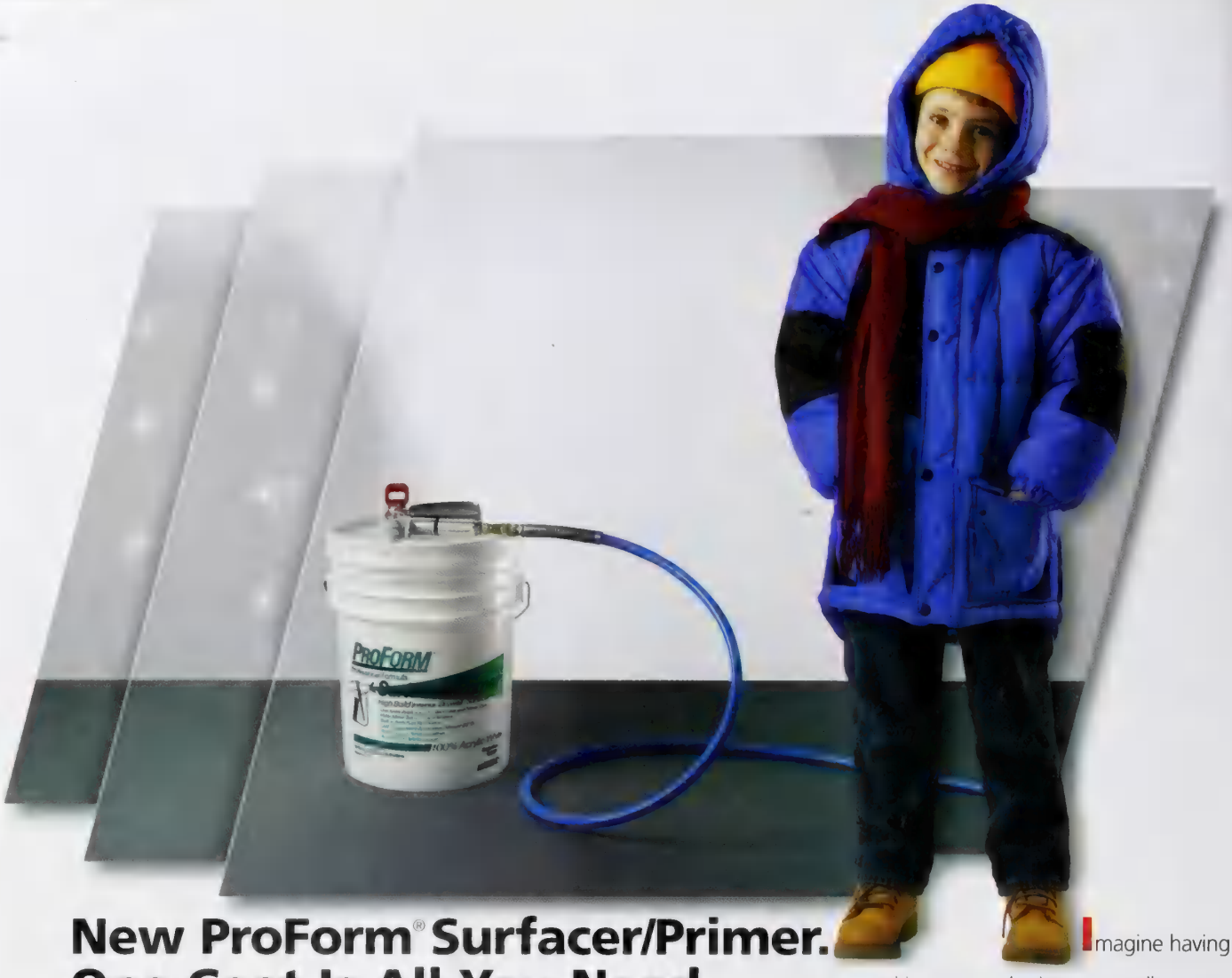
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Unitized Systems Are Raising the Level and Complexity of Curtain-Wall Design

FACTORY-BUILT COMPONENTS LET ARCHITECTS ACHIEVE THE QUALITY CLIENTS NOW DEMAND

By Sara Hart

Facade engineering has always been science. Now it's art, too. As reported in this magazine last August, a building's skin is no longer a passive wrapper articulated with spandrels, mullions, and low-e glazing. Because of growing client demands and technological innovations, making a curtain wall now requires a team of collaborators—designers, engineers, and fabricators. The linear path to creation has been supplanted by integrated teamwork.

This developing paradigm of collaboration is the logical consequence of a shift away from so-called stick building to unitized systems, especially in those projects that require small margins of error and demand a high level of craftsmanship. Whereas in stick construction everything is done in the field, as raw materials are processed and assembled on-site, much of unitized construction takes place off-site. The facade is engineered as a system of components, which are fabricated in the controlled environment of a factory or workshop. The components are shipped to the site, where they are usually hoisted into place by cranes and connected to each other.

Unitized construction is particularly well suited to the demand for high thermal performance, weather tightness, and increasingly, quality detailing. Although quite different in program and execution, the success of all three projects discussed here depended on a close collaboration among all the disciplines.

Written on the wall

Burberry, the London-based haberdashery founded in 1856, is so well branded by its signature check pattern of camel, black, red, and white that the clothes need no other brand identification. In New York City, where there is an epidemic of high-end, high-concept flagship stores, the dignified purveyor wanted a competitive presence on tony 57th Street without the flashy demeanor of Niketown across the street, yet as elegant as the opalescent LVMH tower a few doors east.

Burberry commissioned the New York office of Gensler to create an envelope to enclose the elegant interiors crafted by interior designer Randall A. Ridless [RECORD, March 2003, page 203]. The site of the new building consisted of the shells of adjoining town houses, the former location of fashion house Escada, and the current, aging and inadequate Burberry flagship.

Before the "gymnastics of making two facades into one"—as the challenge was described by design principal Lance Boge, AIA—could begin, the architects had to investigate the integrity of the two independent shells, each one a structural hodgepodge, the result of decades of



A staircase behind the Burberry facade creates a zone that enlivens the showrooms for several floors, blurring the line between inside and out.

CONTINUING EDUCATION

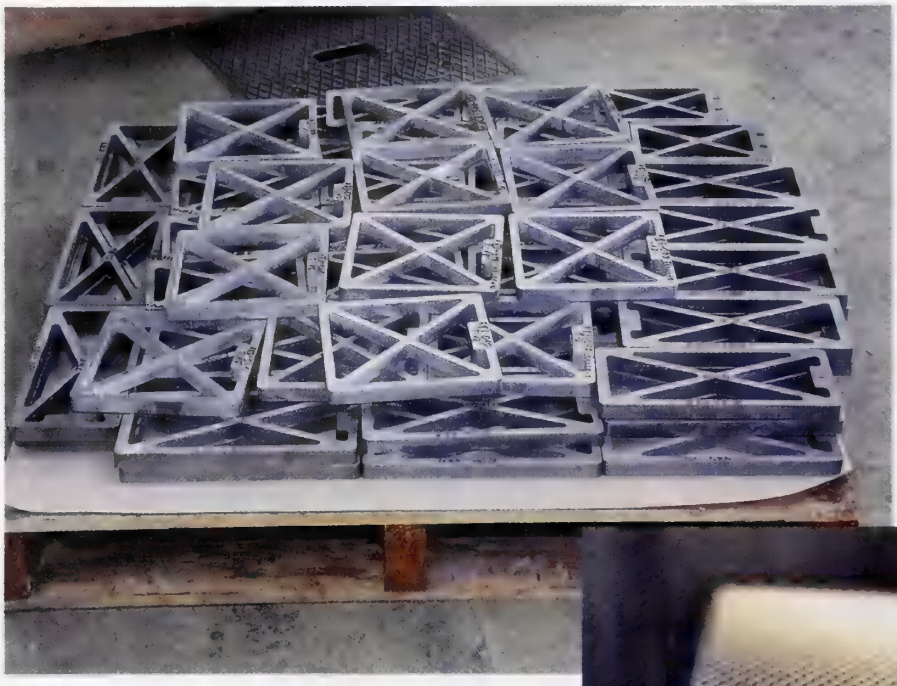
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 276 and follow the instructions.

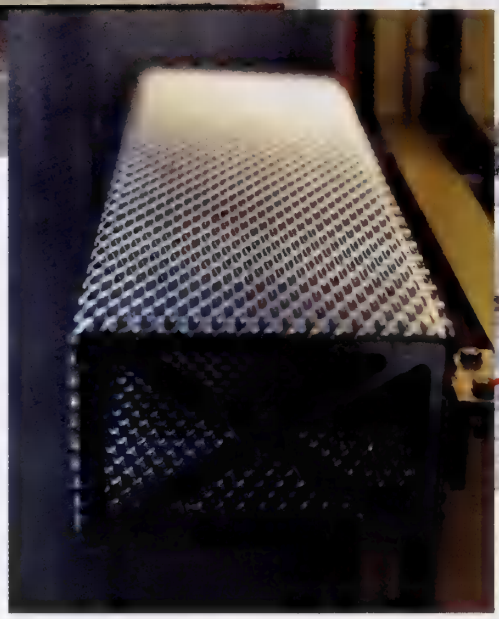
LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *List the benefits of unitized construction systems.*
2. *Describe how unitized systems differ from stick building.*
3. *Discuss the collaboration of disciplines required of unitized construction.*

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Burberry, New York City

Al the Seele factory in Gersthofen, Germany, architects, engineers, and fabricators collaborated to detail the metal-mesh sections (right, far right). Eventually, the mesh was changed from steel to aluminum to reduce the weight of the wall. Seele determined that X-bracing (above) was needed to stiffen the members. The team built prototypes to study the connections.

renovations. "There were three or four different types of construction," says Belinda Watts, project manager for the envelope and structural renovation, and the problem was further complicated by the fact that the floor plates in the two structures did not line up.

The architects evaluated different ways the two buildings could be combined to meet the client's growing needs. The resulting feasibility study summarized five options, ranging from the demolition of the existing buildings and the construction of a new medium- to high-rise tower

FOR BURBERRY, COMPANY IMAGE AND URBAN CONTEXT HAD TO BLEND EFFORTLESSLY.

to a minor renovation that would leave the dividing party wall intact. Analysis showed that a new building would require a long construction schedule and high capital expenditures. Due to a compressed time frame, the architects ruled out razing the stores and chose to perform a radical renovation instead, which included demolishing the structural masonry party wall and replacing it with a series of steel columns and beams to support the new floors. The redundancy of services—elevators, stairwells, bathrooms, and storage—could then be eliminated, capturing more square footage for the sales floors.

Finally, with a plan to fuse the existing buildings into one, the architects could turn their focus onto creating a refined but visually animated facade. The complexity of this problem cannot be overstated. In typical New York infill buildings, the facade is often a generic curtain wall that repeats the rhythms of its neighbors and addresses the streetscape with varying degrees of distinction. Because of the stature of the client, Gensler's mandate was more difficult. For Burberry, company image and urban context had to blend effortlessly.

From the onset, Gensler pursued the facade design as the expression of the iconic Burberry check, while understanding that the image had to represent a modern, revitalized purveyor of luxury goods. "It's hard to take one context and reinvent it in another medium—the warp and weave of fabric to glass and steel," explains Boge. Countless iterations yielded a sophisticated, asymmetrical, and layered grid, which was eventually rendered in Magny Jaune stone, glass, and bronze-colored metal mesh. Needless to say, there was a lot riding on—and written on—this facade, so craftsmanship in its execution became a significant priority.

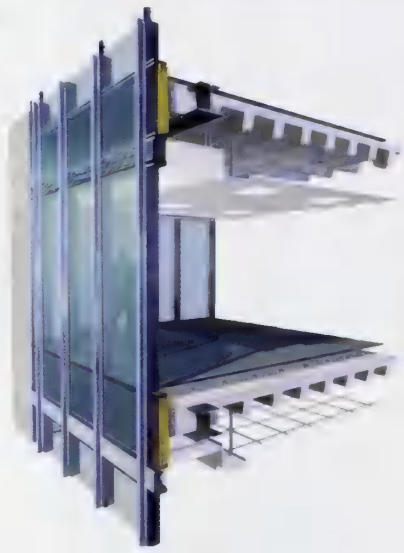
Gensler enlisted Dewhurst Macfarlane, a structural engineering firm headquartered in London with an office in New York, to act as the curtain-wall consultant. Its facade-design group is known for innovative solutions for glass envelopes. Their primary role was to ensure that the

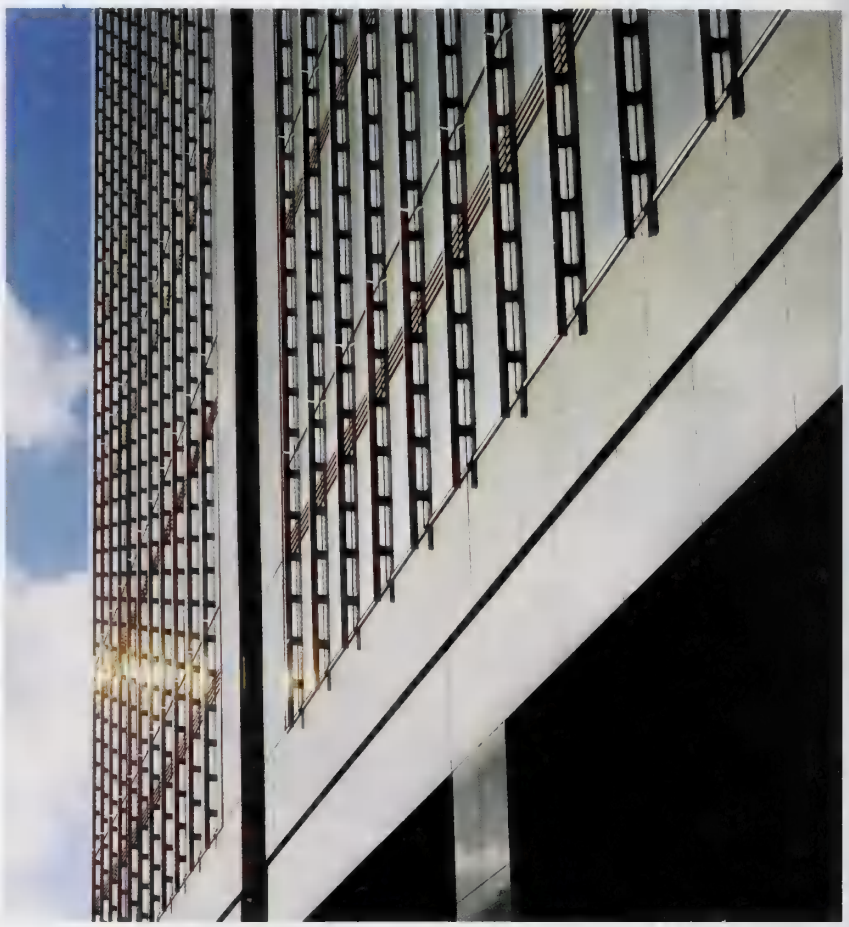
PHOTOGRAPHY: COURTESY GENSLER



Gensler created a refined, layered facade for the Burberry flagship store in Midtown Manhattan (left) out of Magny stone, clear glass, and bronze-colored aluminum. The partially unitized curtain-wall grid was manufactured in a factory in Germany (above).







George's Quay, Dublin, Ireland
The facades consist of a unitized structural, silicone-glazed curtain-wall system, assembled off-site in modules (below left). Stainless steel and granite clad the envelope of this building. Vertical marine-grade stainless-steel fins (left and below) project through the structurally bonded glazing to create strong vertical elements on the facade.

facade was fully engineered before bidding the job, in order to stress the high level of craftsmanship to the bidders. The German curtain-wall fabricator Seele GmbH won the bid with a proposal for a modified unitized system. "Other bidders' proposals were for more of a standard system approach, with room perhaps for some customization," says Carlos Espinosa, project architect. Had they gone the standard route, "We would have had a very different facade," he explains.

TOLERANCES WERE TIGHTER THAN NORMALLY SEEN IN U.S. CONSTRUCTION, NOT GREATER THAN ¾ INCH OVERALL.

Before the bids even went out, though, Gensler explored the limitations of the materials by making several mock-ups in a local ornamental metal shop. The team had chosen a mesh metal for the larger grid, and they wanted to see how it would bend. "If not for the thermal and structural requirements of the facade, it could have been fabricated in an ornamental metal shop, because elements were that thin and precisely detailed," explains Belinda Watts. Mock-ups and experimentation continued at Seele's plant in Gersthofen, Germany, where Seele, Dewhurst Macfarlane, and Gensler worked out the detailing together. Eventually the steel mesh became aluminum to reduce the weight, and bracing was added to make it rigid.

Unitized systems have another advantage. The Burberry site had almost no space for staging. When all the materials arrived, they had to be immediately installed or erected. The curtain-wall components arrived in batches that corresponded to the erection sequence of top to bottom. Tolerances were tighter than normally seen in U.S. construction, not greater than ¾ inch overall for alignments to base building and adjacent structures, but then shrunk to a few millimeters for the mullion system. The result of such finesse (matching the quality of the interiors) is a delicate scrim that evokes the iconic Burberry check without mimicking it.

Facade on delivery

George's Quay is a commercial office development in central Dublin, Ireland, designed by Dublin-based Keane Murphy Duff Architecture for

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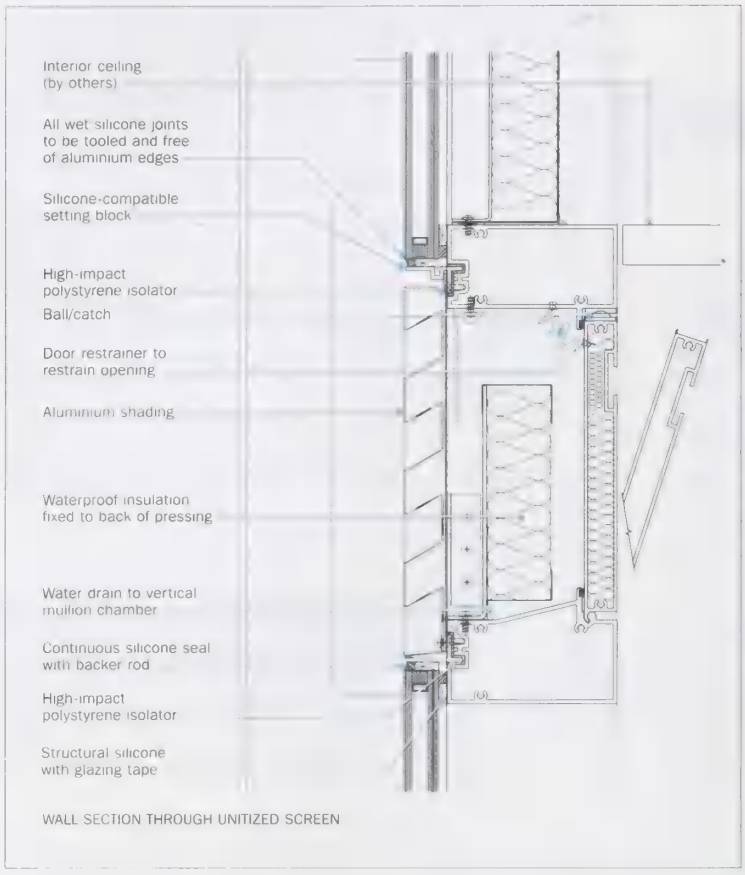
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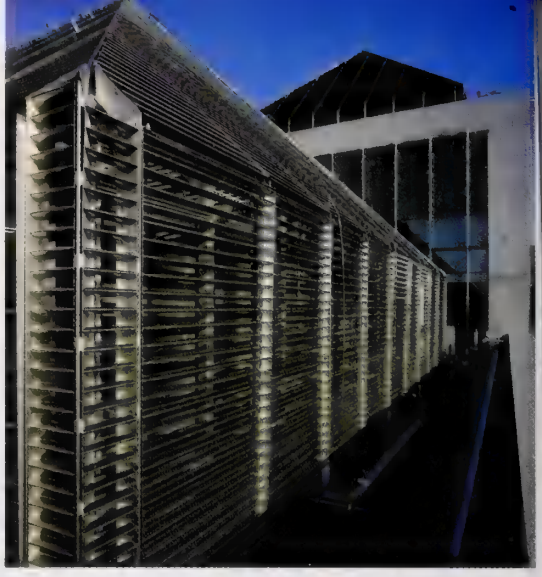
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WALL SECTION THROUGH UNITIZED SCREEN





George's Quay, Dublin, Ireland

Stainless-steel louvres clad seven pyramidal penthouse suites that form the roofline. The glass is coated in pure silver, which reduces heat gain and glare while giving a sheen to the building. The section (above) shows the louvers and the inward-opening hopper vents that allow natural ventilation to be controlled locally.

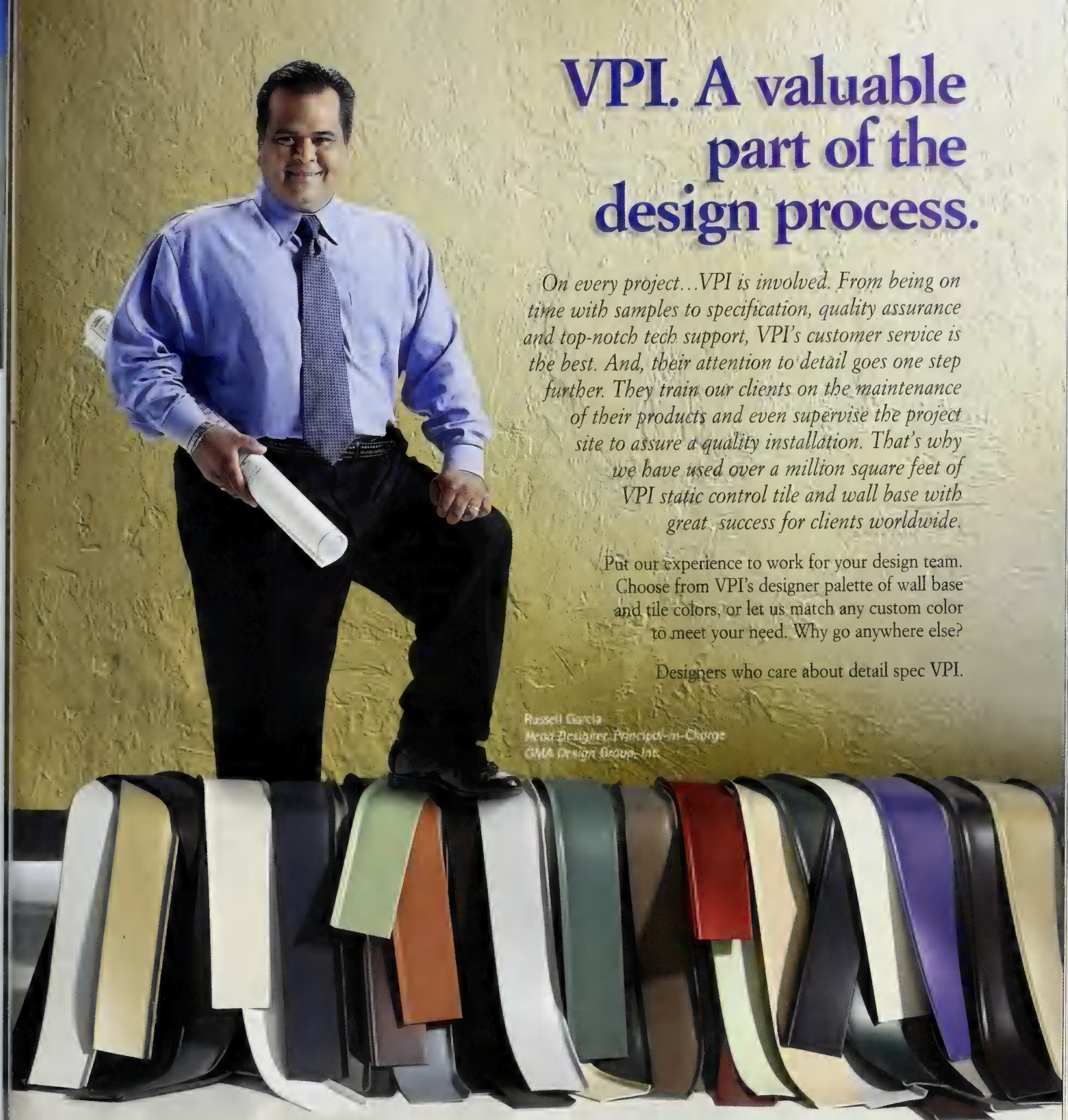
Cosgrave Developments. Buro Happold Facade Engineering, the international consulting engineering firm with offices worldwide, designed what it claims is the first example of a fully glazed, preassembled facade in Ireland, which required close supervision of collaborating local and international building-envelope contractors.

According to Russell Winser, project engineer, "preassembly ensures superior workmanship, because all fabrication is undertaken off-site in a factory-controlled environment. This type of system also allows the facade to be assembled independently of the on-site works, thereby mitigating overall building program risks. Also, there is no need for external scaffolding, as the preassembled units can be lifted into position using a floor-mounted crane."

PREASSEMBLY ENSURES SUPERIOR WORKMANSHIP BECAUSE FABRICATION IS UNDERTAKEN IN A CONTROLLED ENVIRONMENT.

Unitized construction is often a global effort. Winser explains, "The aluminum framing sections were fabricated in Toronto and shipped to Dublin, while the double-glazing units were fabricated in Cork (using high-performance glass sheets—that is, coated with an invisible solar-control layer, made in Germany). Glazing units and framing members were finally assembled in Dublin and then delivered directly to site. Architectural Aluminum (AA), a Dublin-based cladding company, fabricated and installed the curtain wall." Although AA had overall responsibility for the glazing system, detailing of how individual components fit together was developed by a separate contractor, Kawneer Special Projects, based in the U.S.

The structural silicone glazing (SSG) was factory-installed. It was clear in this case that bonding double-glazed units to an inboard aluminum framework of horizontal and stainless-steel vertical mullions was best done in the clean and controllable environment of the shop. Over the past 30 years, structural sealants have earned a reputation for reliability, given that in many cases, such as during earthquakes, they have prevented glass from falling. Structural sealants also protect against other outdoor environmental factors such as sunlight, thermal changes,



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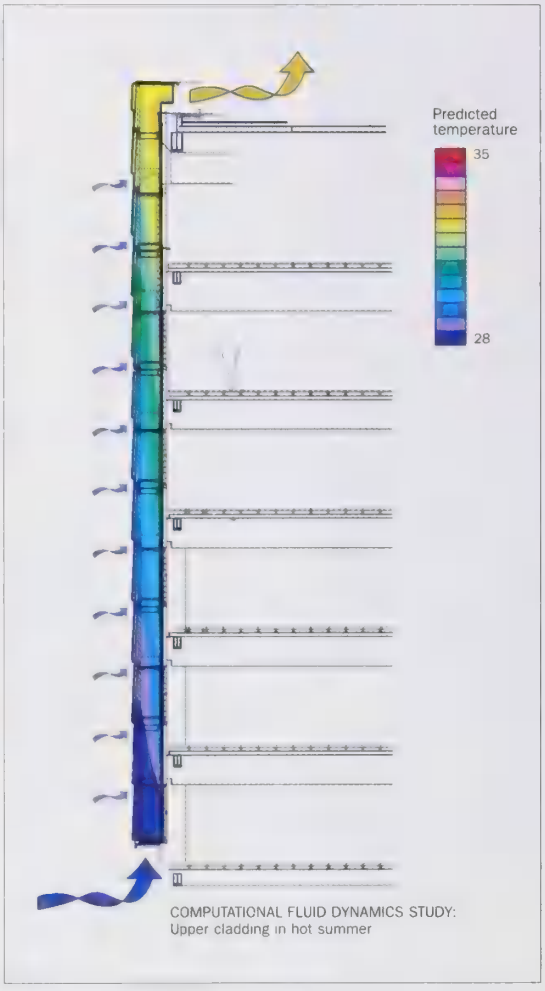
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Plantation Place, London, England

Two Plantation Place (left) is sealed and air-conditioned. However, air-conditioning intakes are as high as possible in order to maximize the freshness of the outdoor air. CFD modeling (above) helped determine the environmental conditions throughout the year in both buildings. Blinds incorporated in the wall cavity are opened and closed by local photo sensors. Wind sensors lift the blinds in windy conditions to protect them from damage.

water, and atmospheric pollutants. "The silicone, therefore, acts structurally to hold the glazing in place, resisting positive and negative wind pressures," explains Winser. "The vertical load of the glass, however, must always be supported by discreet supports sited along the glass unit's bottom edge."

Does unitized construction cost more than stick built? "Not necessarily," is the answer from Winser. "This procurement strategy is not unusual for preassembled facade systems, as shipping costs are very competitive, and the cladding industry supply chain is fairly fragmented. It is the responsibility of the cladding contractor to organize this logistical network. In Ireland, this challenge is exacerbated by the lack of expertise with this type of preassembled facade system. Hence the partnering arrangement with a U.S. company [Kawneer]."

FACADE DESIGN PLAYED A MAJOR ROLE IN PROVIDING FLEXIBILITY WHILE REGULATING THE INTERNAL ENVIRONMENT.

The hybrid solution

One Plantation Place is a multitenant development in central London, and at over one million square feet, it is unusually large for that part of town. In contrast to the Burberry and George's Quay projects, the client here, the British Land Company, was very specific about function and maximum flexibility, as it expected to attract up to 70 individual tenants.

The program mandated that Arup Associates, the international engineering firm's full-service architecture subsidiary, provide the highest quality of internal air quality, with the additional requirement that the design must accommodate the particular needs of a variety of tenants. Facade design, then, played a major role in providing flexibility while regulating the internal environment, which, in addition to air quality, addressed the need for maximum daylight penetration.

Whereas the facades for Burberry and George's Quay are best described as unitized high performance, Arup facade engineers chose an unusual strategy for Plantation Place. They created a hybrid curtain wall—or perhaps a series of independent systems—that acknowledges

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that the environmental conditions existing at street level are different from those at the upper floors. For instance, the base of the building is sealed by a high-performance system and fully air-conditioned. It made no sense to promote natural ventilation where floor plates were too deep for fresh air to circulate through, and where the noise from the traffic would be uncomfortably loud. However, mechanical engineer Michael Beaven notes that, while he assumes the windows will remain closed, they are indeed operable, reflecting a cautious optimism that we may enjoy "silent, clean transport in the future."

Above the seventh floor, where the building begins to clear the surrounding buildings, Arup introduced a double-skin facade. Above the noise and carbon monoxide, it exploited the potential for natural ventilation and maximum daylighting, while remembering the client's instructions to give tenants options. Generally, a double-skin system consists of an external screen, a ventilated cavity, and an internal screen. Solar shading is placed in the ventilated cavity. The external and internal screens can be monolithic glass or a double-glazed unit; the depth of the cavity and the type of ventilation depend on environmental conditions, the desired envelope performance, and the overall design of the building, including systems.

DEPENDING ON THE SYSTEM, AN OPERABLE INNER SCREEN ALLOWS FOR NATURAL VENTILATION OF THE INDOOR ENVIRONMENT.

The ventilation in the cavity can be either natural (buoyancy driven), forced (mechanically driven), or mixed (both natural and forced). The direction of the airflow (upward or downward) depends o the type of ventilation and the general system design. The internal scree can be operable for cleaning and maintenance. Depending on the syste design, an operable inner screen allows for natural ventilation of th indoor environment.

Two Plantation Place is a separate, but connected, 10-stor building—a discrete element of the larger Plantation Place scheme—and it adheres to some of the principles developed for the site as a whole while establishing a clearly distinct identity for itself. The building is linked through its entrance to established public routes. Its massing is derived from its prominent corner location and the architects' desire to respond to the surrounding context without losing the building's visual and functional obligation to the greater whole. The use of load-bearing masonry in the perimeter wall is an innovative approach to the energy-led requirement of minimizing glazed area in similar office buildings. In terms of environmental control, this project is much more complex than the other two. Embedded with wind and photo sensors for natural ventilation, the facades have a certain autonomy because they can operate independently from the other building systems.

These three projects show decisively that "unitized" does not mean "uniform." Each is very different from the others. Burberry's strategy was explicitly tied to the craftsmanship associated with the Burberry brand. The designs of George's Quay and Performance Place, being speculative projects, were driven by client demand for flexibility and energy conservation. In virtually all cases, when "high performance" is the demand, "unitized construction" in a controlled environment will continue to be the answer. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Unitized Systems Are Raising the Level and Complexity of Curtain-Wall Design" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 382).**
- **Fill out and submit the AIA/CES education reporting form (page 382) or download the form at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. Which is a characteristic of stick-building construction?
- **a.** requires small margins of error
- **b.** materials are assembled on-site
- **c.** fabricated in a factory
- **d.** component assemblies are shipped to the site

2. Which is a characteristic of unitized construction?
- **a.** raw materials are shipped to the site
- **b.** components are assembled on-site
- **c.** fabricated in a factory
- **d.** allows small margins of error

3. Unitized construction is well suited to which?
- **a.** high-performance construction
- **b.** collaboration among disciplines
- **c.** high level of craftsmanship
- **d.** all of the above

4. Benefits of unitized construction are all except which?
- **a.** do not require space for staging
- **b.** fabricated in a controlled environment
- **c.** can be constructed completely on-site
- **d.** can be hoisted into place and easily connected

5. Structural sealants protect glass from all except which factor?
- **a.** thermal changes
- **b.** atmospheric pollutants
- **c.** wind pressure
- **d.** vertical load

6. Which is not true of the New York Burberry curtain wall?
- **a.** the metal mesh evoked the Burberry checked fabric brand
- **b.** the original metal-mesh mock-up was in aluminum
- **c.** tolerances varied, but were tighter than ¼ inch
- **d.** the problem with aluminum for the mesh was that it needed bracing to make it rigid

7. Benefits of the unitized facade at George's Quay are all except which?
- **a.** preassembly ensured superior workmanship
- **b.** no need for external scaffolding
- **c.** facade assembly was independent of site conditions
- **d.** bonding the double-glazed units supported the vertical load

8. What is the benefit of preassembled units?
- **a.** they are made in a controlled environment
- **b.** they are made by factory workers
- **c.** they are made less expensively
- **d.** they are made faster

9. Facade designs affect the interior environment in which way?
- **a.** they determine the amount of daylight present
- **b.** they determine the design theme throughout
- **c.** they determine the height of each floor
- **d.** they contribute to the perceived air quality

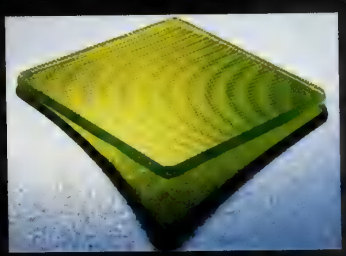
10. Generally, a double-skin facade system can consist of any except which?
- **a.** double glazing
- **b.** monolithic glass
- **c.** solar shading
- **d.** all of the above

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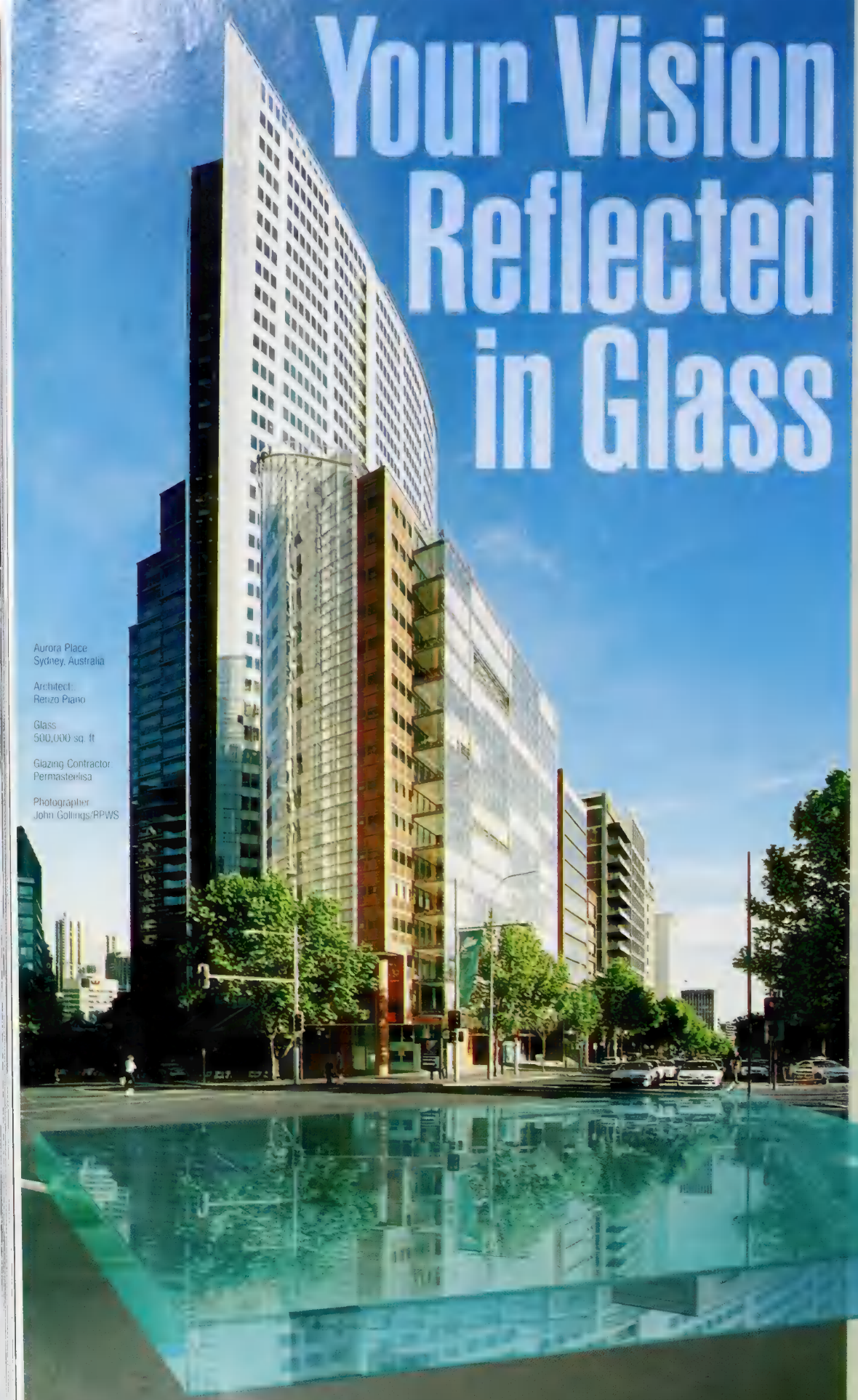
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Technology: NBBJ gives Telenor a flexible, efficient, and innovative headquarters

ENERGY-SAVING PROPERTIES AND WIRELESS COMMUNICATION ARE AMONG THE STANDOUT FEATURES

By Sam Lubell

The mission statement for telecom giant Telenor's new headquarters (see project on page 222) in Fornebu, Norway, is certainly ambitious, especially for a suburban office park: "To be the most democratic, inspiring, and technologically advanced workplace in Scandinavia." Whether the building, which opened in September 2002 and houses 7,500 employees, lives up to this vision is difficult to determine. But there's no question that the 137,000-square-meter space on the site of the former Oslo International Airport pushes the limits of sustainable design and flexibility, thanks to technological innovations. "We didn't just want to build a building—we wanted to have something to represent ourselves and our way of work," said Dag Melgaard, Telenor's chief spokesman.

The building's architecture challenges business culture by not only taking people out of individual offices—a trend that has picked up steam in the past decade—but freeing them from fixed workstations altogether. Meanwhile, advanced technology helps the headquarters attain environmental objectives and obviates the notion that green architecture can't benefit a company's bottom line.

A clean, well-lighted place

Even for a country like Norway, where environmental protection is at the forefront of policy making, Telenor pushes the envelope. Because of Norway's extremely high latitude, the country's regulations regarding worker access to natural light are among the strictest in Europe: Federal law mandates workers must be no farther than 9 meters from a window, and a worker situated farther than that distance can work only five hours per day. To meet these standards, designers incorporated large windows, 1.7 to 1.8 meters high, and built internal office spaces no more than 15.5 meters wide. Like many buildings designed to maximize natural lighting, its floor plates are relatively narrow—only 15.5 meters at their widest point.

Window blinds, built snugly into the building skin (they're tucked behind glass rain screens), can be raised and lowered electronically and are programmed to respond to the sun's position. The blinds, made of either perforated aluminum or woven synthetic fabric, allow sun to penetrate the building even when closed and also protect occupants from glare. Thanks to abundant natural light, there is barely more than one lightbulb per employee, said Karl Otto Jansen, IT and electric project manager.

While Norway is by no means a tropical environment, summers still get warm, with an average high temperature of roughly 70 degrees Fahrenheit. Summer days in Oslo also have more hours of sunlight compared to lower-latitude locations. Yet the building is cooled without traditional air-conditioning; instead, designers implemented a system called "comfort cooling" that includes chilled ceilings. Cool water is circulated through ventilation ducts and in each building's cooled ceiling elements, which are metal boxes that draw up warm air in the building and then naturally send cooler air downward. The warmed water leaves the building and is recooled via a heat-exchange system that utilizes water from the nearby North Sea. A smaller amount of additional cooling comes from oil and electrical burners and sea-powered heat pumps.

Jonathan Ward, AIA, an architect at NBBJ who worked on the project, says the comfort cooling system not only uses far less energy than typical cooling systems, but also reduces maintenance costs because there are no filters to replace and no moving parts to maintain. He adds that the system is comfortable for occupants because its low air velocity minimizes the possibility of drafts. Operable windows, located around the building no more than 2.4 meters apart, allow further flexibility for ventilation.

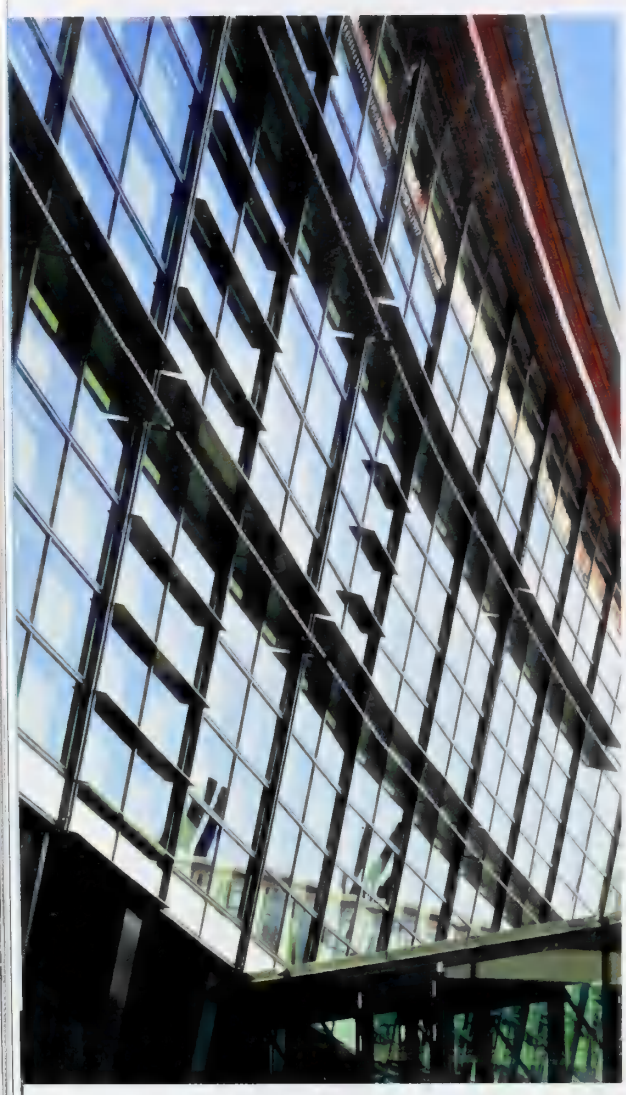
Though Norway is known for its long, cold winters, designers eschewed energy-hogging heating techniques for lower-impact heat pumps, which are being used with increasing frequency (projects in the U.S. can earn LEED green building credits for using them). Like the com-

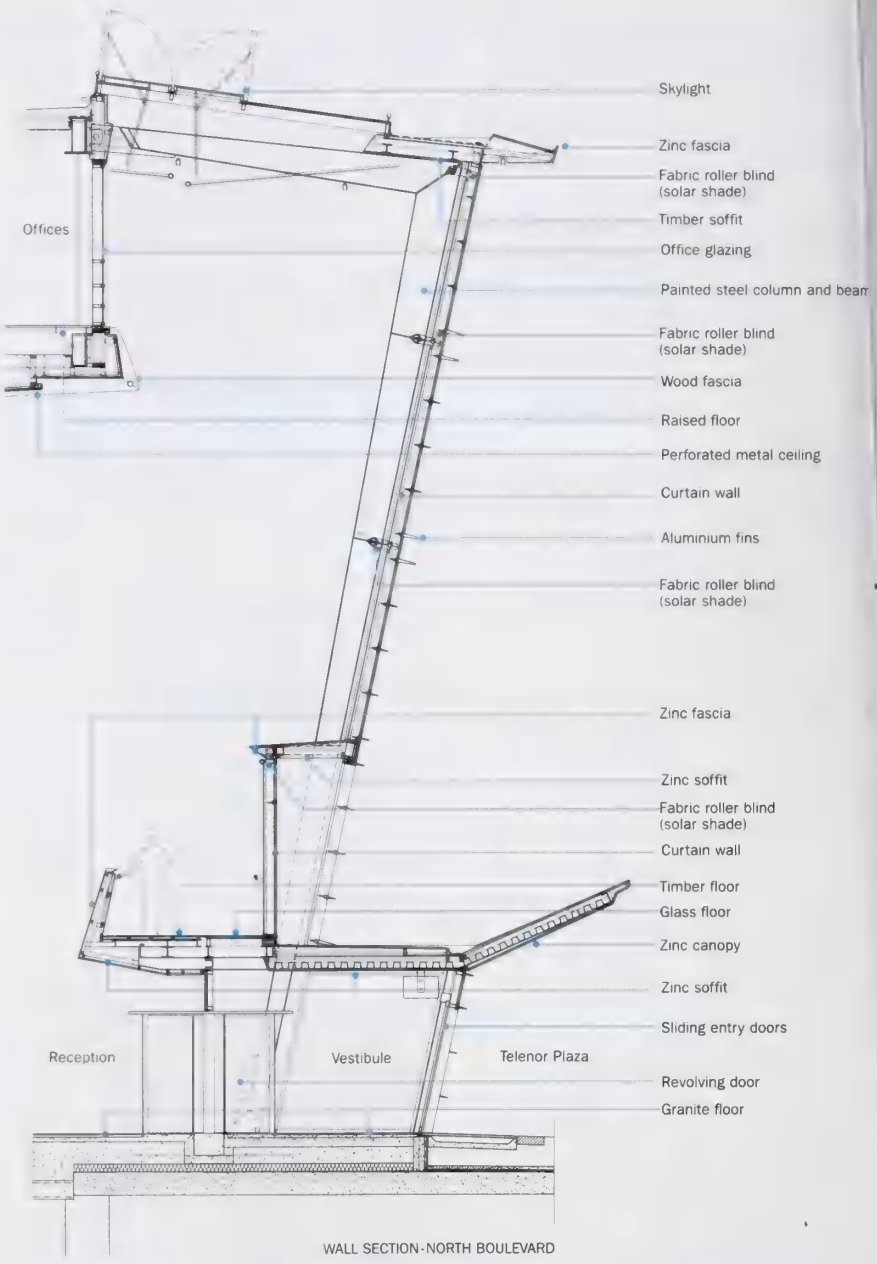


A long, narrow profile like that of the Telenor headquarters building is a common feature of sustainable design. If the building is oriented in the right direction, this form allows natural light to fall deep into the interior. Telenor says there is only about one lightbulb used per employee at Fornebu.

Sam Lubell is a freelance writer living in New York City who often contributes to RECORD. *His work has also appeared in* The New York Times, New York *magazine, and* The Record *of Bergen County, New Jersey.*

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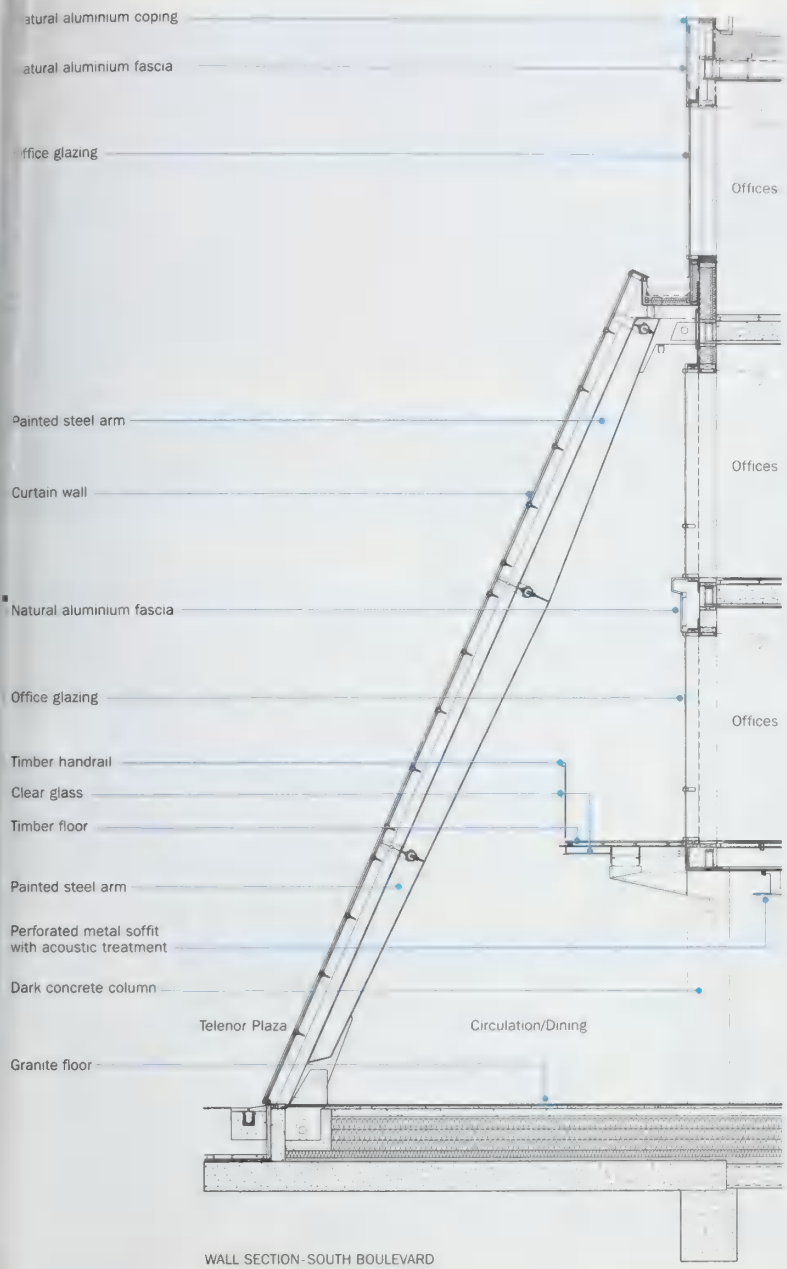
WALL SECTION-NORTH BOULEVARD



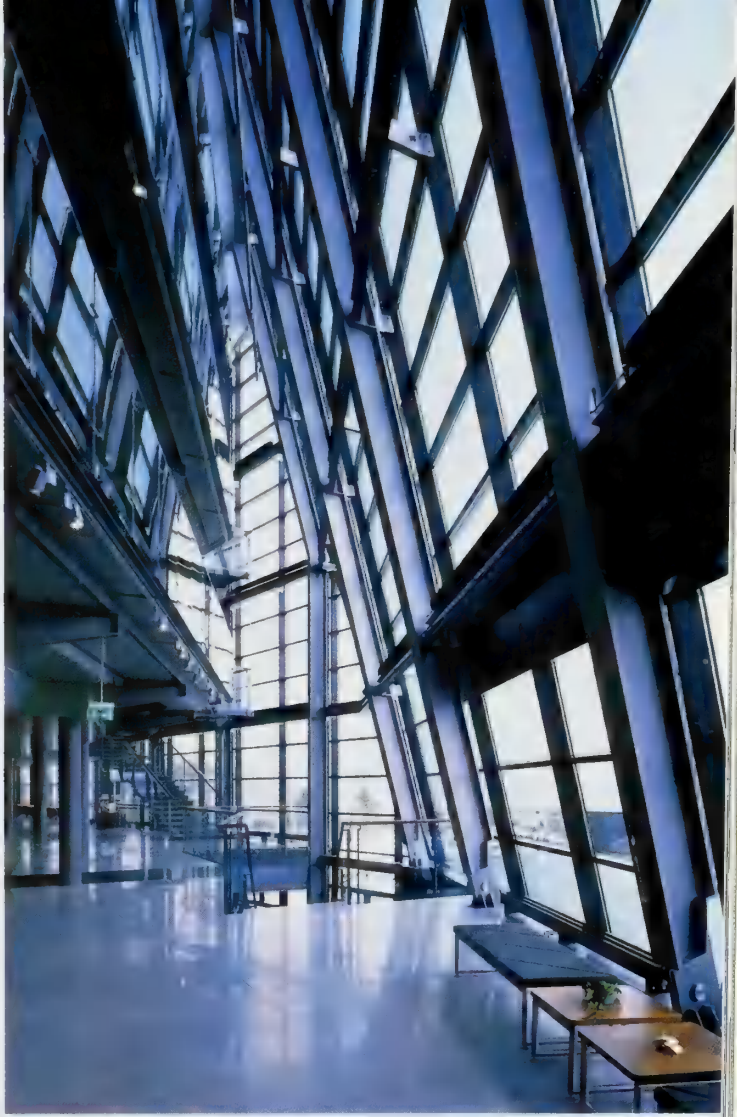




Because sunlight-challenged Norway has strict federal regulations regarding worker access to windows and natural light, NBBJ performed a number of daylighting studies as design progressed. Renderings of the building at different times of the day (above) helped the architects refine its form and orientation. NBBJ also worked with Telenor to create digital representations of indoor office spaces (opposite, bottom left)



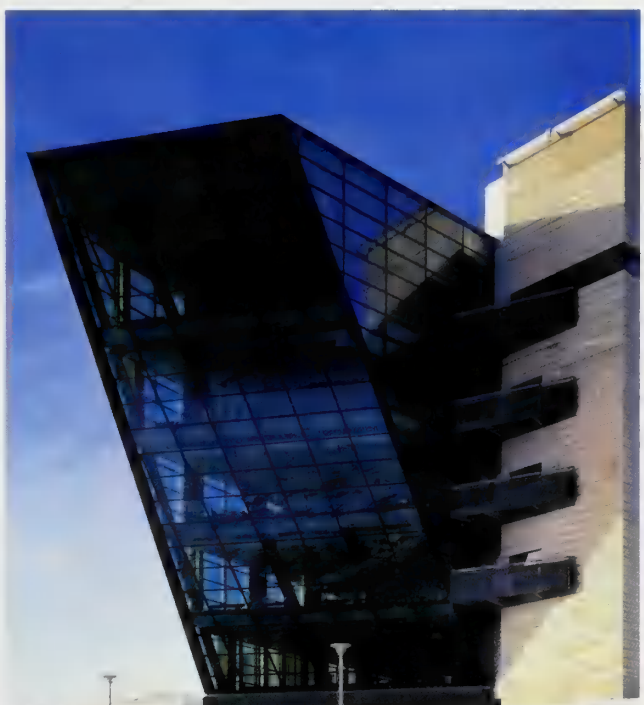
WALL SECTION-SOUTH BOULEVARD

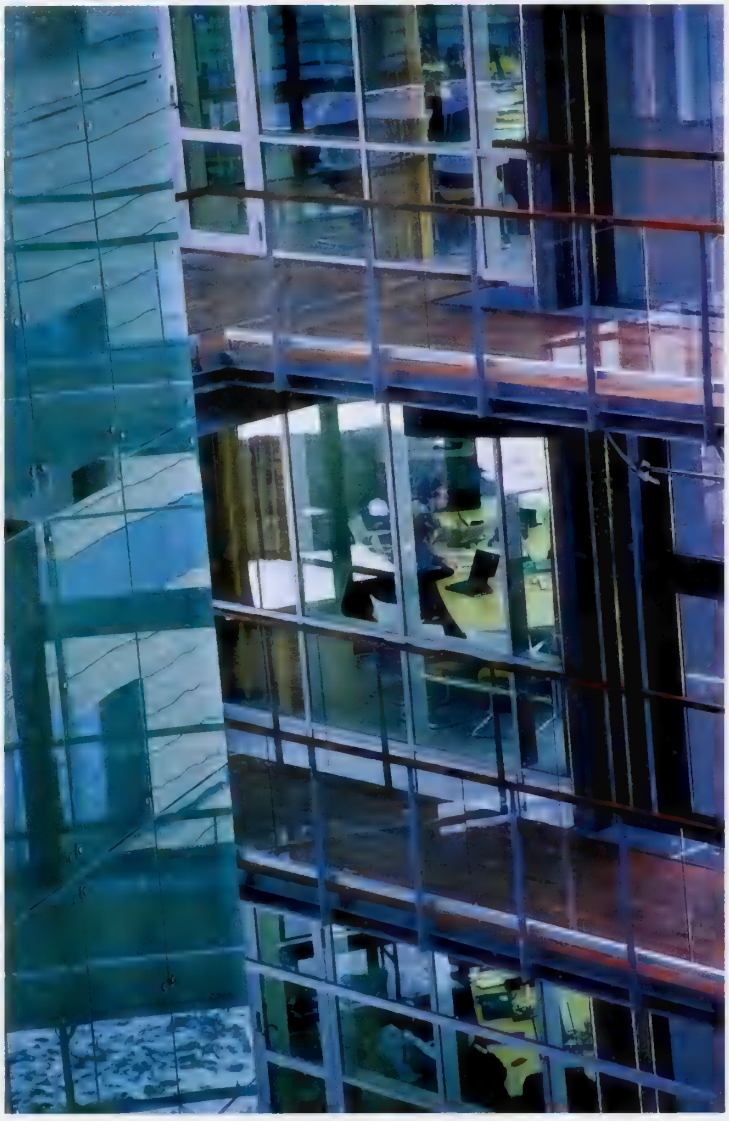


The steep angle of the ends of these floor plates (below and opposite, top) helps to reduce glare from the sun. A fully glazed entryway (above) promotes the feeling of openness and flexibility the client wished to achieve.



so that workers could get a feel for the view corridors and sense the openness of the space. Both designers and client discussed these studies while viewing the renderings on large screens at the Visionarium, a space in the old headquarters specially built for design review. It was so successful as an aid to brainstorming and developing alternatives quickly that Telenor is building another in the new headquarters, and for other clients, as well.





Corner "offices" (above) are actually private rooms that workers can use for tasks requiring quiet or confidentiality. Below, the ground-floor cafeteria is used for both socializing and spontaneous meetings. Employees find it easier to interact with each other informally in the new building.



fort cooling system, it is powered mainly by water from the North Sea. Water is heated using electricity, and its steam is compressed to become high-pressure vapor that eventually travels through the building's radiators. According to Erik Mordli, a HVAC specialist for Telenor, the system produces three times the energy it consumes. Also as in the cooling system, a smaller portion of heating comes from oil and electrical burners, but those are essentially backup systems for peak-use times or crises, said Henning Vellene, an engineer for Technoconsult who worked on the project.

Systems that speak the same language

Such innovative cooling and heating systems precipitated the development of a full-blown building automation system, or BAS, designed to keep the interior safe and comfortable by streamlined building operation. The building's major systems—HVAC, lighting, electricity, even conveyance—are connected together digitally by a centralized energy management system (EMS). The electronic devices that run the building's systems speak a digital language called LON (for Local Operating Network), developed by Echelon Corporation of California. LON allows these devices to share data and to be configured for maximum efficiency; it also allows various types of electronic devices to communicate with each other. The HVAC system powers down when the building, or portions of it, are unoccupied, and the lighting system is also "scenario controlled," meaning lights are adjusted automatically when the sunlight level changes or when people enter and exit. "You don't use more [energy] than you actually need [with this system]," said Jansen. Facility staff can

TELENOR'S NEW HEADQUARTERS WILL CONSUME ONLY HALF THE ENERGY OF ITS OLDER FACILITY.

view data such as room temperature and electricity usage from specialized workstations in the complex's operation center and make manual adjustments as needed.

Employees also have significant control over their immediate surroundings. They can change temperatures and lighting levels with a few keystrokes on their laptops. Sensors detect their changes on a 2.4-meter grid around the building. Yet, because the building's lighting and temperature are maintained automatically, says NBBJ's Ward, these controls are not frequently used. And each section of the building, Vellene adds, has a floor manager to ensure there are no squabbles among employees over settings.

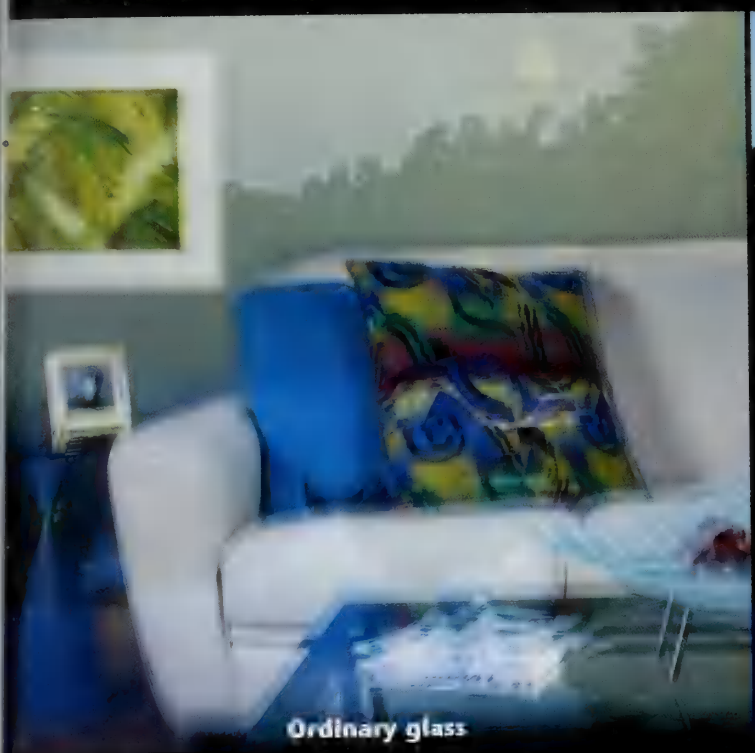
A true building of the Information Age

Not surprisingly for a telecom company, the IT infrastructure is centered around the use of laptops and mobile phones. Laptops can access the company's network anywhere in the building, and all phone calls are made over a cellular network. Mobile phones can also receive e-mail and faxes, while laptops and handheld organizers are used to exchange virtually every type of information, whether paper-based or electronic. Even regular "snail mail" is scanned and sent to employees via e-mail.

Designers used two techniques to untether workers from fixed desks. First, groups of workstations and offices were conceived as "work modules" that could accommodate up to 30 people; then, each module was equipped for complete wireless Internet access. Engineers for Telenor and HP installed 32,000 ports for telephone and data exchange—about four ports per employee, much higher than average. Wireless antennas for mobile phones and other equipment, such as routers and servers, are also included, and the electronics require 27,000 meters of IT-related wire. Designers made some concessions to individual needs: Adjustable desks

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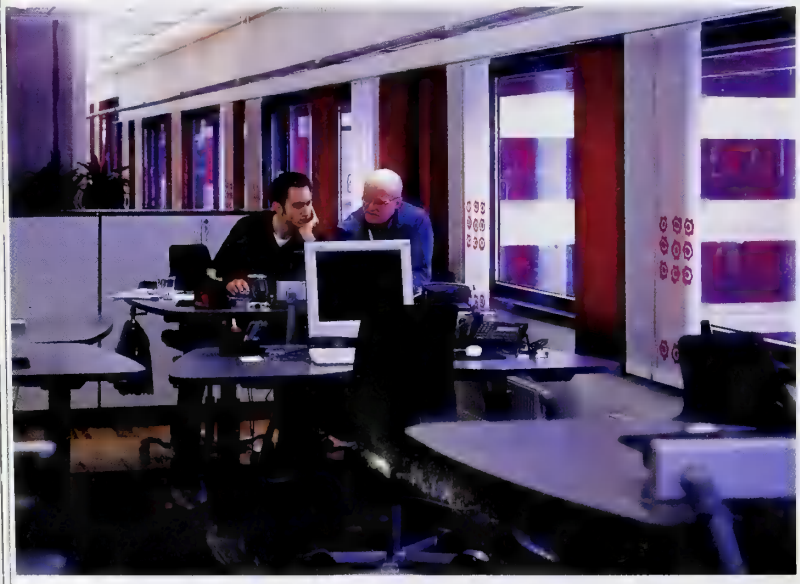
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Telenor employees often gather for impromptu meetings in common areas (top). The facade (right) is tilted to allow natural light to penetrate deep into the building. Work modules with wireless Internet access (bottom) let employees share information readily at mobile workstations.



are shared throughout the building, and private rooms are available fo confidential phone calls, meetings, or work requiring privacy.

Technology even pushed the boundaries of the building when i was under construction. To better inform employees, designers, the boarc of directors, and others about the progress of the project, Telenor installed the "Visionarium," a 37-square-meter room in the company's former headquarters in downtown Oslo, where 3D computer models developed by NBBJ were rendered further by a Telenor design team and presented for comment and discussion. The space sits 25 people, and the viewing screen measures 5 meters by 2 meters, with a 150-degree curved screen utilizing three overlapping projectors. Digital models were crafted with software like Microstation/Triforma (the primary software used, Ward said, because it allowed the architects to cut out 2D elevations and sections from 3D models), 3D Studio Max, Division by PTC, and AutoCAD. "It's a way of having a closer relationship between the client and the architect," said Telenor's Knut Ramstad, head of the Visionarium. A 60-seat Visionarium in the new headquarters will open in May.

Feedback that was gathered during views of models in the Visionarium brought about significant design changes, from material selection for the glass curtain wall near the main entrance to circulation and employee interaction within the building. Virtual daylighting studies also helped architects better design the building for natural illumination. "We tried to make the mistakes in the models, not on the site [or in the building]," said Ramstad.

The free-flowing atmosphere promoted by unfixed work areas, pointed out Melgaard, enables frequent, informal, and efficient interactions among employees. "I've never met so many of my colleagues before," he says. "You just walk over to the people in your zone and ask for two minutes—and in two minutes you can accomplish what might [normally] take an hour."

Where to go from here?

The investment in innovation seems to have paid off so far. Telenor reports the building's energy consumption, per employee, is about half what it was before the move. (Consumption was approximately 14,400 kilowatt-hours per person per year in the old building; at Fornebu, the energy consumption is projected to be about 7,000 kilowatt-hours per person per year.) Although productivity gains attributable to the new building are hard to quantify, the company notes that workers seem happier and more efficient. Online polls show that 76 percent of employees feel more efficient when working in the new building. Only 8 to 9 percent report being unhappy with the new building, mostly because it's located farther from Oslo, and hence many employees now have a longer commute.

Since it opened last fall, more than 5,000 people, both architects and the general public, have visited Telenor, Melgaard says, many to seek ideas and inspiration. Several visiting companies have told him they are planning to replace their fixed desks with mobile offices and wireless systems. Whether the open-design office plan is right for every company is certainly open to debate, but because it has been a good fit for Telenor, the company has begun implementing this working model in its other locations around the world.

Telenor's Visionarium team, meanwhile, plans to continue building similar digital preview spaces for other Telenor branches, and even for facilities they don't own, like the Nobel Peace Prize Center in Oslo. "We believe this is the future," said Ramstad. The same, it appears, can be said for the entire Fornebu project. ■

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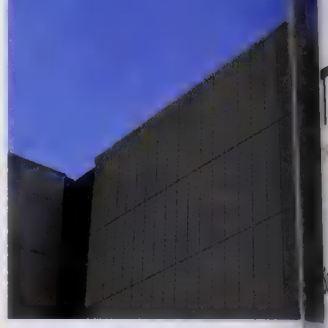
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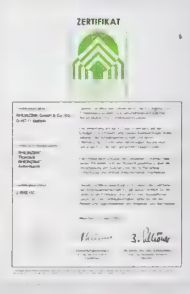
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Tech Briefs

A new product responds to a heightened sensitivity to security without resorting to the bunker mentality ▪ University researchers make impressive structures out of plastic scraps

Sandia engineer develops protective enclosure using ordinary materials

Inevitably, the events of September 11, 2001, produced heightened sensitivity to security. Building officials are scrutinizing codes. Developers are assessing building and site vulnerability. Entrepreneurs are offering new applications for existing products; or, in the case of Keith Snyder, new products in development.

Snyder is a mechanical engineer and senior member of the technical staff at Sandia National Laboratories, where science-based technologies have been developed to support national security since 1949. He has been building and installing weapons-testing fixtures for more than 12 years. Using off-the-shelf components, he designed a machinery-enclosure system that appears to have a number of useful commercial applications.

Centrifuges, key weapons testing machines, spin objects at high speeds; if something fails, the object becomes a potentially deadly projectile. As a safety measure, such machinery is typically enclosed in steel or concrete, with the attending disadvantages of heft, expense, and opacity.

For a centrifuge at the Department of Energy's (DOE) Pantex Plant in Amarillo, Texas, Snyder sought to design an enclosure that would be more efficient and economical, as well as transparent. He engineered, tested, and patented a method of using clear polycarbonate glazing in a Unistrut frame, which is blast-, projectile-, and ballistic-resistant. Polycarbonate is a widely used, highly durable plastic laminate [RECORD, December 2001, page 107]; Unistrut is an infinitely flexible structural-metal framing system. The Pantex enclosure uses standard 4-by-8-foot polycarbonate bolted into U-channels that can accept thicknesses from ⅛ inch to ¾ inch.

"Polycarbonate has been used as a ballistic shield in many applications. When you shoot at it, there is not a lot of movement in the surface of the material," explains Snyder, "so you can pretty much bolt it any way you like. But to protect for blasts or larger projectiles, you need more flexibility in the frame, or it will pop right out. I designed a method of assembling standard pieces to resist various kinds of impact loads."

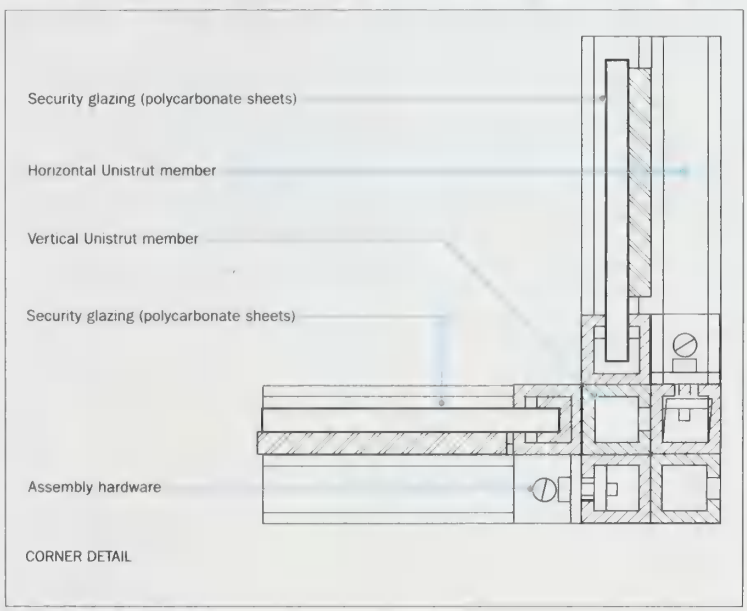
For machinery enclosures, safety is enhanced when the operator can see that no one is inside the enclosure at start-up, or if something is behaving abnormally. The structure has a footprint of a mere 4 inches, and the Pantex enclosure was put up and wired by four people in four days at one tenth the cost of a similar concrete enclosure. Furthermore, the enclosure can be easily taken down to remove the machinery for repair, or to reconfigure or move the testing laboratory.

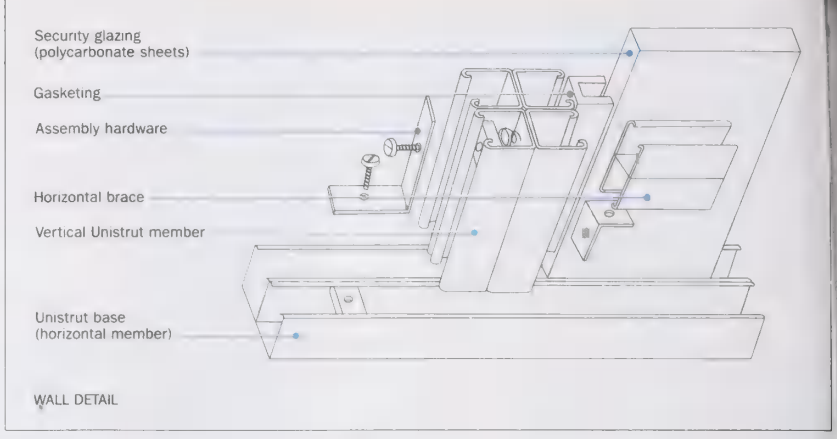
The security industry is the most immediately obvious user. Everything from crowd control to "pope mobile"–type protection is possible. An enclosure can be installed with bolts to existing walls or floors, or erected as a free-standing structure, and is especially suitable in circumstances where visibility is desirable. Because the system is modular and demountable, it has advantages for temporary installations for large events, such as political rallies or concerts. An enclosure or a fence can be erected at the same time and in the same amount of time as bandstands, lighting, and power systems are put up. And, using the centrifuge enclosure as an example, an assembly can withstand the impact of a 40-pound steel projectile traveling at 60 mph.

Sandia is licensing the system to Snyder for commercial development, and he has explored variations on security applications, the potential for customizing the framing system to suit specific circumstances, first-time construction, and postconstruction retrofit. Severe weather, specifically hurricanes, exhibit properties similar to those Snyder's TotalShield (as the commercial version is called) is designed to withstand. Horizontal bracing spanning the Unistrut frame helps keep the glazing in place. For buildings with fixed glazing in hurricane zones, polycarbonate in the flexible framing system can be installed as the permanent window system. The window frame can be designed to



The centrifuge at the Department of Energy's Plantex Plant is protected by an enclosure made of the Unistrut structural metal framing system. The enclosure uses standard 4-by-8-foot polycarbonate bolted into U-channels.





WALL DETAIL

(continued from previous page)
accept bracing bars, which can be installed temporarily when hurricanes threaten and removed again once they pass.

Similarly, houses with operable windows can be retrofitted with frames mounted on the exterior of the building. Polycarbonate sheets can be installed in them temporarily, as needed, during hurricane season. "Then you can watch objects coming at your window instead of sitting in a dark box," quips Snyder. The alternatives now available for window protection range from plywood covers to solid steel shutters, both of which leave the occupants with no natural light and with no way to personally monitor what is going on outside.

Other uses might be to protect outdoor equipment, backup generators, or aboveground tanks from weather or vandalism. "The assembly is made on the non-'threat' side, so it can be locked up and no one can disassemble it from the outside," explains Snyder. The possible uses seem numerous.

Perhaps with all the potential of polycarbonate to accept color and to be shaped, it will prompt owners and designers to think of utilitarian structures and necessary protection as worthy of some closer design attention without the bunker mentality. *Barbara Knecht*



Researchers at Rutgers University building a bridge that will be strong enough to support a 25-ton truck out of plastic I beams and tongue-and-groove plastic decking developed at the Center for Advanced Materials.

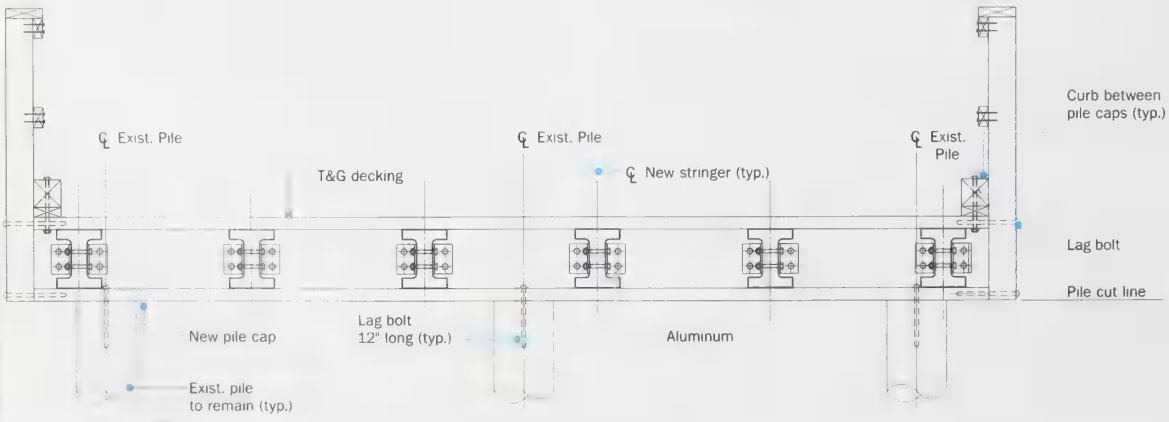
Modern-day Merlins turn recycled plastic into sturdy structural members

The next plastic milk bottle you drive over may be supporting the road, not blowing around on top of it. Just before Thanksgiving 2002, a research team, based at Rutgers University in New Jersey, reconstructed a vehicular bridge at Wharton State Park in the New Jersey Pine Barrens out of girders, stringers, and decking made from recycled plastics. Using the existing pilings in the Mullica River, the new bridge is 15 feet wide and 56 feet long, costs $75,000, and was erected in about 10 days by a four-person team from the Rutgers' Center for Advanced Materials through Immiscible Polymer Processing (AMIPP). Designed to support a 25-ton truck, the bridge is made from 17-inch-deep pile caps, 12-inch stringers, I-beam cross sections, and tongue-and-groove plastic decking, which makes a continuous surface with the top flange of the pile caps. All the material is a uniform gray-black color, which is easily created from recycling mixed color plastic.

Thomas J. Nosker joined the two-year-old Rutgers University Center for Plastics Recycling Research in 1987 with degrees in mechanical engineering, materials science, and polymer physics. The center's purpose was to develop a method for recycling and reusing plastic soda bottles.

To collect materials for the project, the university sponsored a curbside collection program. "People were very responsive in giving us the bottles we asked for, but they also gave us a lot of things we didn't ask for, namely plastic milk and detergent bottles. We made a large pile of those bottles, and it became my job to figure out what to do with them," says Nosker.

The first thing Nosker did was figure out how to recycle this High Density Polyethelene (HDP) into a reusable material. Then he tested its properties and found that its



BRIDGE SECTION

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Tech Briefs

(continued from previous page)

strength was quite good, and it was accepted by the ASTM (formerly, American Society for Testing and Materials) for low-stress applications, such as park benches and picnic tables. "Unfortunately, like plastic milk bottles that are easily crushed but very difficult to rip, it lacked stiffness," says Nosker.

His research team set out to increase the stiffness of the material by combining it with another plastic. Not so easily accomplished, since most polymers are immiscible with one another; that is, they don't combine molecularly. "Imagine what happens when water hits a newly waxed car: It beads up, because the two are immiscible. Immiscibility is a chemically based characteristic of most polymers," explains Nosker. "We decided that we would figure out how to use that characteristic to our advantage." By combining recycled polyethelene mechanically with recycled polystyrene, a polymer (plastic knives, forks, and coat hangers) that is stiff but easy to break, the resulting material was strong like polyethelene and stiff like polystyrene. It is also cheaper than molecular combination.

To force two immiscible materials to combine molecularly requires the use of a material, often another polymer, called a compatibilizer. To collect and grind up polyethelene and polystyrene costs about 20 cents per pound; a compatibilizer can add another two dollars per pound.

Commercial production of railroad ties using the material created at Rutgers began in the late 1990s. Nosker and the research team continued to develop the material and experiment with cross sections. Working with the McLaren Engineering Group in West Nyack, New York, they have built bridges using beams, trusses, and now, I beams.

"In the next 20 years, the biggest changes in our industry will be in the area of materials," observes structural engineer Mal McLaren. "I am working with materials people to understand what they can do, and so they can understand what we need. I think we can make a hollow tube section that could be just as strong, with fewer buckling problems. It has been a two-way learning process."

According to Nosker, using the I-beam cross section moved structural plastic into cost competition with rectangular wood members. Up to this point, it has been more expensive to build in plastic than to build in wood. Durability and a dwindling timber supply have counterbalanced the higher cost in railroad-tie replacement. "With a plastic I-beam section, replacing the Mullica River Bridge required 30,000 pounds of plastic compared to the original 50,000 to 60,000 pounds of wood," says Nosker. "And the $75,000 cost of the new bridge is the same as the cost for the original bridge decades ago." (Of course, the original cost included the pilings on which the new bridge was built).

Nosker is working on a fireproof coating that will make the structural members fire-resistant, but McLaren points out that the biggest enemy of structural plastic is simply heat. "At 600 degrees, you have spaghetti instead of an I beam," he says. The best uses of recycled plastic structural members right now, according to Nosker and McClaren, include any treated-wood application. "Besides bridges and railroad ties, you can use it for telephone poles, play equipment, and docks. Treated wood is leaching poisonous chemicals into the environment; structural plastic won't. And these materials burn as cleanly as anything can," says Nosker. "It is especially suitable for marine applications," adds McLaren. "It is just as strong as steel-pipe piles, and the marine borers that are destroying timber piles have no appetite for it." *B.K.*



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Digital Architect

Tablet PCs: Good investment or just hip hardware?

By Deborah Snoonian, P.E., and Sam Lubell

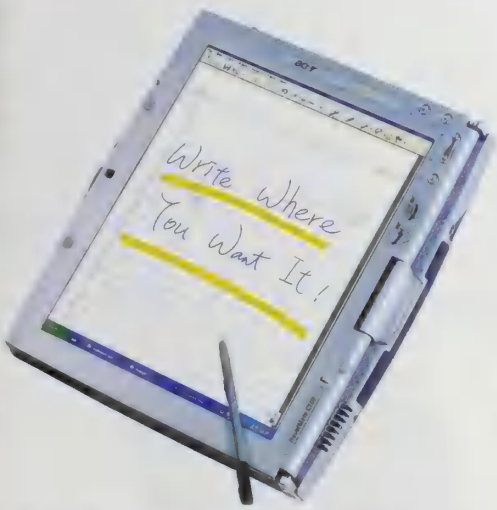
Slim, sleek, and stylish, the tablet PC is the supermodel of the computing world. These portable, lightweight machines are built with rugged screens that let users draw directly onto them with a penlike device, rather than using a mouse and keyboard to enter information (although most offer attachable or built-in keyboards for those who prefer to work traditionally from time to time). Software available or under development for the tablet PC includes everything from typical productivity applications like Microsoft Office to design tools. Tablet PC makers and developers are even targeting the AEC market specifically because they know architects are comfortable working with pen in hand. Should firms take the plunge and invest in these techno-tools? And what can they expect to gain by using tablet PCs rather than traditional computers?

Ease of use, new ways to work

Among architects, early adopters of tablet PCs include Skidmore, Owings & Merrill (SOM), whose associates and partners were pilot users of HP's tablet PC, with Autodesk's Architectural Studio (a design tool well suited to pen-based computing that allows users to sketch 3D architectural elements and interact with architectural design information) while the tablet was still in development. Henry King, SOM's chief information officer, says the firm initially purchased just a few machines for select senior staff to test-drive. Now SOM owns 21 tablet PCs and counting. They are used by people of several ranks, from partners to associate partners to project architects, for dashing off handwritten e-mails, making presentations, sketching preliminary designs using design software like Architectural Studio, viewing Cad files on-site, and running traditional office applications.

"Once we got used to not having the keyboard, we really preferred working that way," says King. "And we find them lighter and more durable than traditional laptops, so they're very well suited for traveling." Architects, notes King, use tablet PCs on-site when they want to take compressed Cad files with them, giving them the ability to perform mark-ups straight onto the tablets. Associate partner Jeff Holmes is excited by this new process, especially because of its ability to communicate information. "You can show guys pouring foundations for the project; it gets them more excited," he says. "It's not that you couldn't have done it before, but it's more convenient. It's hard to work on a laptop standing in a puddle." Holmes also finds the tablet to be an excellent new tool for sketching 2D and 3D architectural elements on Architectural Studio. "The format's just the right thing. A pad of paper. It feels good." He adds: "I never use the mouse as a sketching tool. I just can't do it. It's either a real pen or the tablet pen." The tablet aids with his organization, allowing him to keep drawings formerly "littered around his office" digitally arranged and send them directly via e-mail. It even helps him in transit. "Now I can even get work (sketches, mail, etc.) done while I'm standing on the train commuting to my office in the morning," he says, albeit a bit ruefully.

www For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at ***architecturalrecord.com***.



As a laptop or as a tablet PC, Acer's TravelMate offers multiple methods of input.

Compaq and HP teamed up to develop the Compaq Tablet PC TC 1000.





The Electrovaya Scribbler runs for 8 to 16 hours without interference.

SOM is ahead of the curve. Due largely to the newness of tablet PCs and the uncertain economic climate, firms have not embraced the concept en masse, nor have they rushed out to buy the machines in even modest numbers.

Software developers are working hard to change that, however, particularly for field applications where the tablet PC's lightness, presentation quality, and portability makes it a natural tool. Currently the major software developers for AEC include Autodesk, Bentley, Nemetschek, and Graphisoft. None have programs specifically dedicated to the tablet PC, but most of their programs still work on Tablet PCs, and less memory intensive programs like Architectural Studio, Bentley View, and Bentley Redline give designers effective ways to draft three-dimensional objects. Most agree that the device has the ability to change the industry. "The whole platform of communications is better," said Tony Flynn, chief marketing officer for Bentley. "From architect to engineer to contractor. There's no drop off from digital to paper. You don't lose that efficiency." Because the ability to make natural drawings is better than with a mouse, pen-based design software such as Alias Wavefront's Maya 3D modeling (used by entertainment companies like Disney, Electronic Arts, and Industrial Light & Magic) and Alias Sketchbook Pro (designed specifically for the tablet PC) could pave the way for pen-based three-dimensional architectural rendering software.

MOST TABLET PCS ARE LIGHTER AND SMALLER IN SIZE THAN TRADITIONAL LAPTOP COMPUTERS.

A company currently creating field-based applications is Kelar, based in Jackson Hole, Wyoming, which has developed front-end software, called Onsite, for airport facility managers that works with Autodesk's GIS applications. The software lets people in airfield and terminal operations view color-coded maps, floor plans, and exteriors of an airport to enable the development of emergency proce-

Schools find the pen mightier than the mouse

As usual, schools are leading the way, evidenced by the "Tablet PC Rapid Adoption program" at the University of Texas at Austin.

Nineteen Compaq PC 1000 model Tablet PCs were given out and incorporated into architecture courses at the university during the fall 2002 semester. The Tablet PC tested was the Compaq Tablet PC TC 1000, a "clamshell" model. Software used included Autodesk's Architectural Studio.

Architecture courses involved in the Tablet PC RAP included Introduction to Geographic Information Systems Physical Planning Studio, Urban Environmental Analysis, and Advanced Design, Europe.

School of Architecture faculty said they were interested in experimenting with Tablet PCs because they felt more natural tools like a pen and slate could foster more creativity. The tablet also allows for a more informal approach than that of a mouse and keyboard. As one designer put it, using a mouse to design is like "drawing with a bar of soap."

Because the tablets were easily transportable, and wirelessly connected via a LAN network, students were able to take their information into the field and perform mark-ups on-site. The tablet PC pen, students said, allowed a more intuitive interaction with design programs such as Photoshop and AutoDesk Architectural Studio.

One student commented that the "pen is almost perfect." Another student, who has carpal tunnel syndrome, was astonished that she could "write for hours without pain." Many were excited because the tablet's format enhanced collaboration in an informal setting.

Outside of designing, students found the tablet PCs especially helpful for note taking. Microsoft's Windows Journal allows students to write in freehand on their tablets, as if writing on a spiral notebook. They can search the text for certain topics, highlight or convert to typed text, provided they have decent handwriting (which many do not). *Sam Lubell*



Toshiba's Portégé 3500 boasts a 12-inch screen.

PaceBlade's Tablet PC has a Tripod Hole that allows the tablet to be mounted anywhere.



Motion Computing's tablet features "grab and go" docking for quick use with a keyboard.



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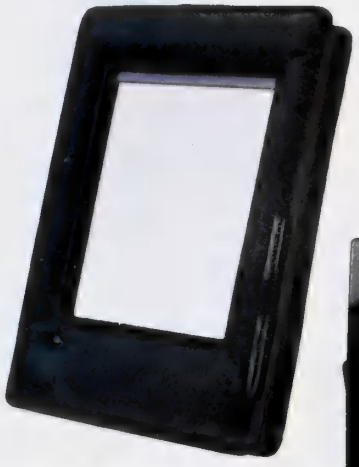


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Digital Architect



In its carrying case, the ViewPad is camouflaged as a notebook.



ViewSonic's ViewPad 1000 comes network-ready and with a built-in digital camera.

dures and evacuation scenarios. "These maps give people a clear 'situational awareness' when they're walking around the terminal, so that they can see where trouble spots are—where crowds might get too thick or equipment might hamper an evacuation procedure," says Ed Maghboul, vice president of Kelar. He continued, "We gave the operations managers both handheld organizers and tablet PCs to do this work as they walked around the airport. The tablet PCs were much more popular because of their larger screen size and crisp presentation. People found them much easier to use." It's not difficult to imagine the various ways tablet PCs could streamline work for designers involved in construction administration by, for instance, allowing for faster data capture of changes and field or as-built conditions.

IT REMAINS TO BE SEEN IF TABLET PCS WILL MAKE THEIR MARK IN ARCHITECTS' OFFICES.

Sorting out the differences

Although tablet PCs have been introduced steadily for consumer use since fall 2002, those with lon memories will recall that this is no the first attempt at promoting keyboard-free, pen-based devices. A decade ago, in 1992, Microsoft hedged into this arena with an ill-fated effort called Windows for Pen Computing, an operating system and interface designed specifically for handwriting recognition on tablet devices. Industry experts say the demise of this effort was largely due to a clunky operating system, and units that had poor battery life, fuzzy screens, and poor character recognition. Today's machines are technically superior and designed to work with Windows XP Tablet PC Edition, an enhanced version of Windows XP. Because users are much more

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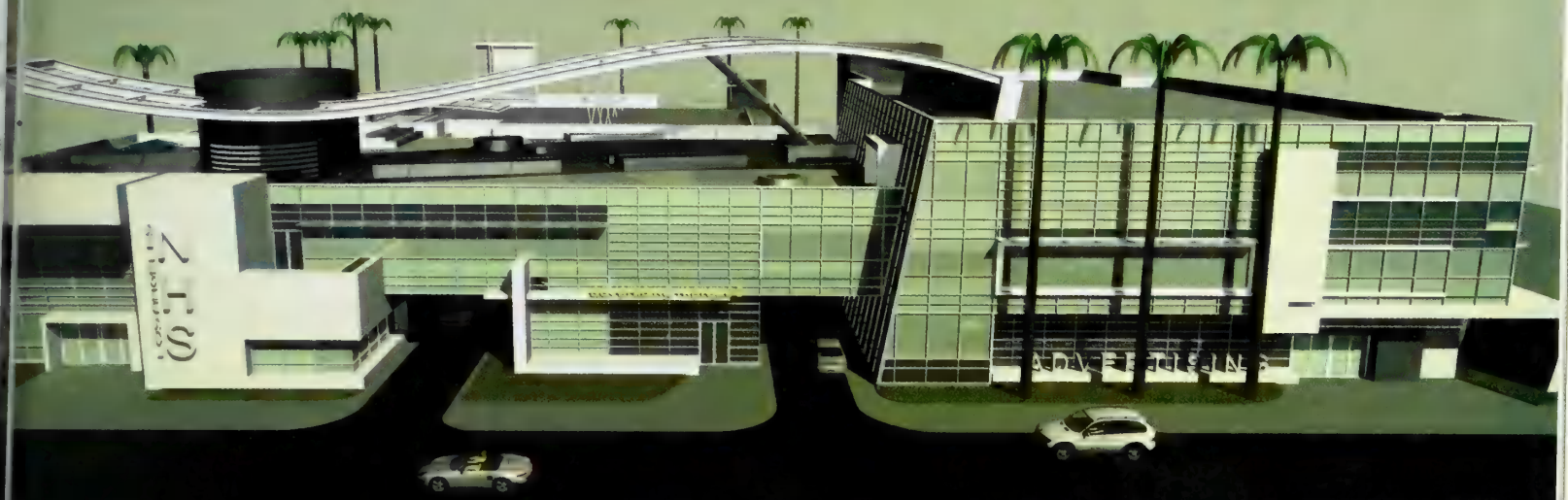
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familiar and comfortable with the Windows environment compared to a decade ago, learning the subtle differences in how to use the applications is not as difficult.

Tablet PC makers include Acer, HP/Compaq, Toshiba, Fujitsu, and Siemens. Compaq's use of SOM in its tablet pilot program, and its donation of 19 tablets to the University of Texas at Austin, demonstrates the company's interest in architectural usage, but no company has yet clearly positioned itself as a leader in the field. There are two different designs: the "slab," a stand-alone monitor that can connect to a keyboard and desktop mount, and the "clamshell," which has an attached keyboard but can be detached if required. For those who tool around on Macs, Apple has not released its own version of the tablet PC, and the company said it would not disclose what it had planned in the future.

Questions and answers

With the market already cluttered with portable computing products, from PDAs to laptops to cell phone/PDAs, it still remains to be seen if tablet PCs will make their mark in architects' offices. "It could just be a fad," said Al Moulton, president of Graphisoft U.S. "They haven't quite hit. I've seen these things come and go."

First, the problems have to be sorted out. "Eventually it could change the way we do business," said Brad Holtz, director of Cyon Research. But first, he says, several issues have to be fixed. Possible improvements include lower prices (tablet PCs are still almost 10 percent more expensive than laptops), lighter weight (most are two to four pounds), and increased ruggedness. "In order for this to really work, I need to be able to plop it down on a couple of two by fours with a lot of sawdust around," he says. Bentley's Flynn adds that the machines need to have longer battery life (most have only two to four hours) and improved brightness for outdoor use.

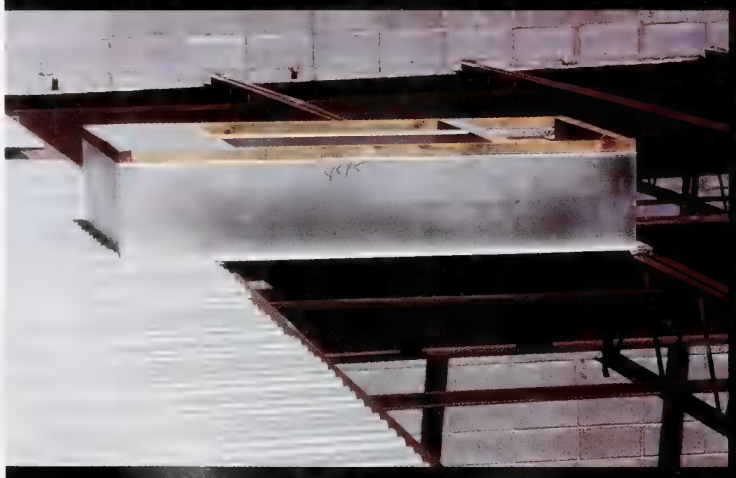


WalkAbout's Hammerhead is designed for maximum strength.

For now, the tablets' biggest strengths revolve around office connectivity, on-site reviews, systems management, and sketching. Good portability gives them a leg up on laptops, while an excellent sketching surface gives them an advantage over PDAs. (Moulton notes, "Palm pilots are meant for people with stubby little fingers. Pen tablets are made for an artist. It gives them a smooth flow to their ideas.") But tablets' limited computing power, small screen size, and less accurate control keeps them, for now, from being used to make important architectural renderings. SOM says it is not ready to venture beyond Architectural Studio because of the limited processing power and memory of the machines, which pale in comparison to most desktop computers.

"For now, drafting is still going to take place using a mouse and a keyboard," says Holmes. Architectural software specifically designed for tablet PCs remains elusive. "If the demand is there, then we'll do it," says Moulton. ■

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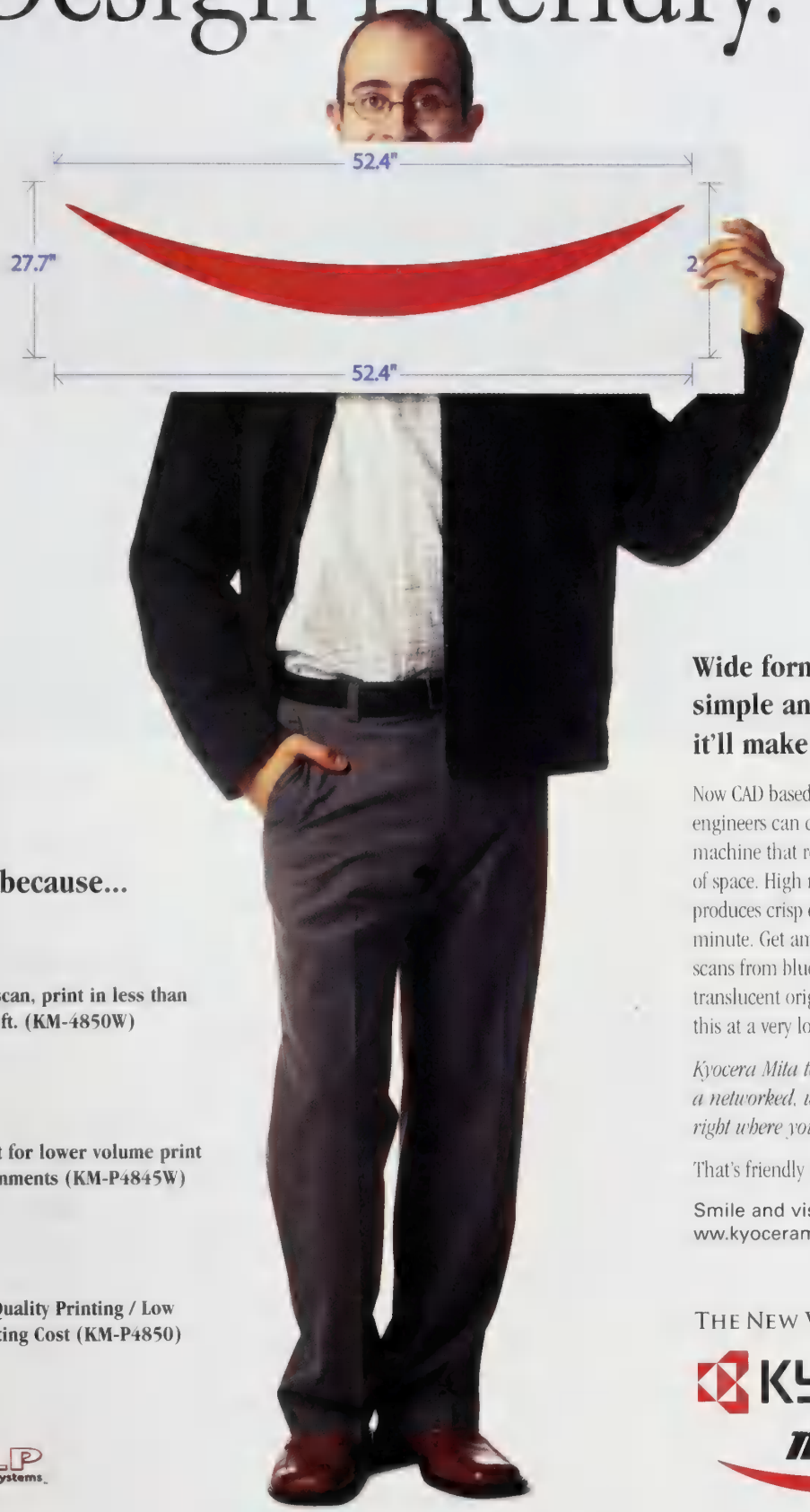
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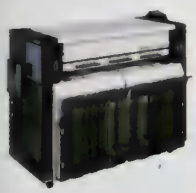
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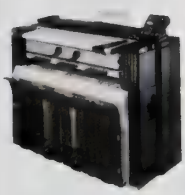
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Architectural precast concrete cladding is noted for its diversity of expression, as well as its desirable thermal, acoustic and fire-resistant properties. Commonly overlooked is the fact that concrete elements normally used for cladding applications, such as solid wall panels, window wall or spandrel panels, have considerable inherent structural capability.

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The slight increases in loadbearing wall panel cost (due to reinforcement and connection requirements) can usually be more than offset by the elimination of a separate perimeter structural frame. Depending upon the application, the loadbearing panels also may reduce or eliminate a structural core or interior shear walls, particularly in buildings with a large ratio of wall-to-floor area. The increase in interior floor space gained by eliminating columns can be substantial and, depending on the floor plan, partition layout flexibility can be enhanced.

To take maximum advantage of loadbearing units, decisions as to their functions should be made before structural design has progressed to a stage where revisions become costly.

Discussed herein are the various shapes and sizes of wall panels, major design considerations, and when loadbearing or shear wall units should be the first design choice. The role of connections and shear walls is explained. In general, the design methods and techniques presented in this article apply to buildings in both seismic and non-seismic areas.

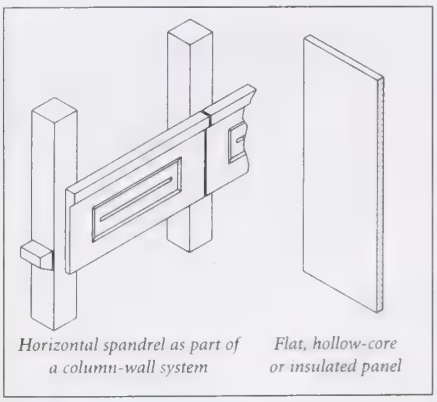
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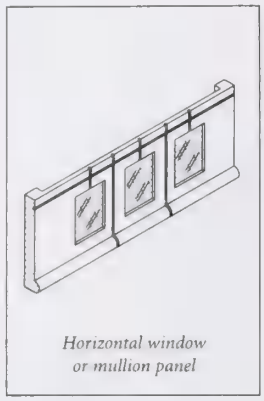
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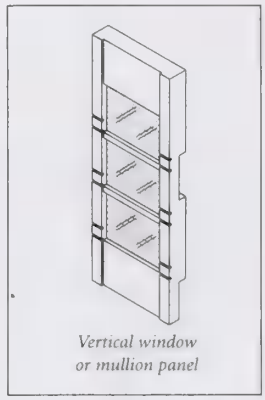
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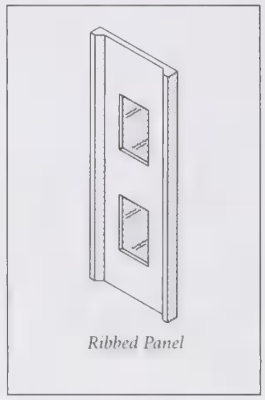
- *Understand how architectural precast concrete wall units can act as loadbearing elements in a structure*
- *Learn how connections for loadbearing wall panels affect the structural support system*
- *Identify benefits of using loadbearing architectural precast units*

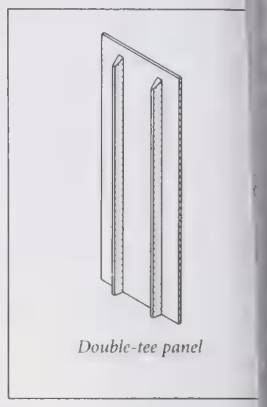

Horizontal spandrel as part of a column-wall system

Flat, hollow-core or insulated panel


Horizontal window or mullion panel


Vertical window or mullion panel


Ribbed Panel


Double-tee panel

Shapes and Sizes

Architectural load carrying components can be provided in a variety of custom designed or standard section shapes. A wall system can be comprised of flat or curved panels, window or mullion panels, ribbed panels or a double-tee. Each type of panel will readily accommodate openings for doors and windows.

In the interest of both economy and function, precast panels should be as large as practical, while considering production efficiency, transportation and erection limitations. By making panels as large as possible, numerous economies are realized—the number of panels needed is reduced; fewer joints (waterproofing requirements), lower erection cost, and fewer connections are required.

For low-rise buildings, by spanning loadbearing panels vertically through several stories, complex connection details can be minimized, and consequently, the economic advantages of loadbearing wall panels are increased.

For high-rise buildings, it is normally more practical to work with single-story horizontal panels connected at each floor level. The elements can be more slender, simplifying the erection.

Multistory panels usually do not exceed 45 ft. in height — the maximum transportable length in many states. Panels should be designed in specific widths to suit the building's modular planning and module of floor members.

Curves are easily handled by precast concrete. On curved panels, a continuous supporting ledge cast on the inside face is preferred to provide bearing for floor/roof members and to stiffen the panels to minimize warpage.

Design Considerations

The design and structural behavior of exterior architectural precast concrete bearing walls depends on the panel shape and configuration. The designer should consider the following:

- Gravity loads and the transfer of these loads to the foundation—Vertical (gravity) loads are parallel to the plane of the wall, at an eccentricity influenced by the geometry of the wall, location of load, manufacturing and erection tolerances.
- Magnitude and distribution of lateral loads and the means for resisting these loads using shear walls and floor diaphragms. Loads in the horizontal direction may be both parallel to and perpendicular to the plane of the wall.
- Location of joints to control volume change deformations due to concrete creep, shrinkage and temperature movements; influence upon design for gravity and lateral loads, and effect upon non-structural components. Particular caution must be exercised at load path transitions, such as at the corners of a building where loadbearing and non-loadbearing panels meet or at re-entrant corners.
- Connection concepts and types required to resist the various applied loads.
- Tolerances required for the structure being designed with regard to production and erection for both precast concrete units and connections, including tolerances for interfacing different materials.
- Specific requirements during the construction stage which may control designs, such as site accessibility.

Loadbearing or shear walls should be the primary design consideration if one or more of the following conditions exist:

1. There is inherent structural capability of the units due to either their configuration or to sufficient panel thickness. The sculptural configuration of units often enables them to carry vertical loads with only a slight increase in reinforcement. For example, the precast concrete units may have ribs or projections that enable them to function as column elements for the structure. Ribs may be part of the architectural expression, or where flat exposed surfaces are required, ribs may be added to the back of panels for additional stiffness. Projections do not have to be continuous or straight, as long as no weak point is created within the units. Generally, there is little cost premium for sculptured panels when there is adequate repetition.
2. A uniform structural layout of the building facilitates distribution of lateral forces from wind or earthquake loads. Plus, this uniformity lends itself to repetitive, economic castings. Cast-in-place topping on precast concrete floor units enable the floors to act as diaphragms, distributing lateral forces, reducing both individual wall unit loads and connections.
3. The building has a central core or bay designed to absorb lateral forces and transfer them to the foundation. When the core creates a torsional irregularity, it should be supplemented by designing the perimeter panels as part of the lateral force resisting system. Because the core or bay provides the structural rigidity, panel-to-floor connections can remain relatively simple. The main advantages of precast cores versus cast-in-place cores are surface finish quality, faster construction, and greater flexibility of the precast concrete erection sequencing.

The three conditions do not preclude other situations where loadbearing panels or shear walls may be used.

See examples of building layouts in which loadbearing panels can be used advantageously in additional online reading.

Shear Walls

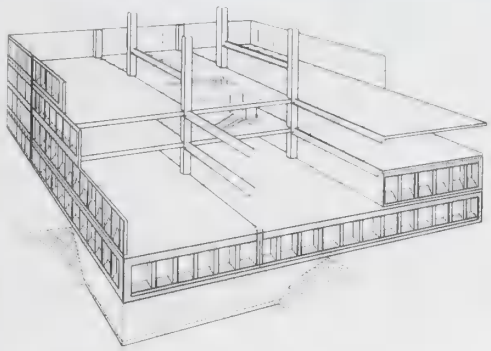
In many structures, it is economical to take advantage of the inherent strength and in-plane rigidity of exterior wall panels by designing them to serve as the part of the lateral load resisting system. Walls taking horizontal loads from the effects of wind or earthquakes are referred to as shear walls. Shear walls are used as the most common and economical lateral force resisting system and have been utilized widely in buildings up to 30 stories.

A shear wall system's effectiveness is dependent largely upon panel-to-panel connection design. A significant advantage of jointed construction is in the inherent ease of defining load paths through connections. As such, it is relatively easy to separate a precast concrete lateral force resisting system's performance from that of the vertical loadbearing frame.

Shear walls are vertical members, which transfer lateral forces, in or parallel to the plane of the wall, from superstructure to foundation. Thus, shear walls act as vertical cantilever beams. Shear walls are placed at appropriate locations within and around the building perimeter according to the architectural and functional design requirements.

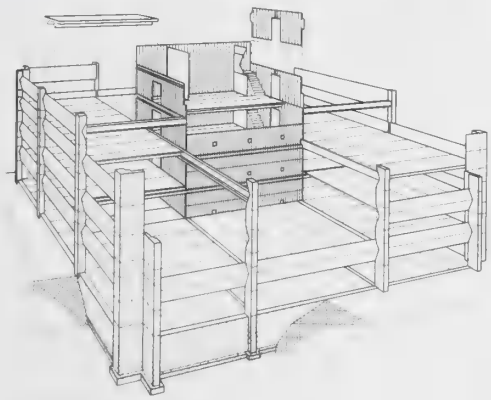
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Typically, a structure incorporates numerous walls, which can be used to resist lateral forces in both principal axes of the building. The portion of the total lateral force which each wall resists depends upon the walls bending and shear resistance capacity, the participation of the floor, and the characteristics of the foundation.



Exterior shear wall system (or perimeter frame)

The importance of earthquake loads varies according to a project's geographic location. Many areas of the United States require structural analysis for potential earthquake forces in varying degrees of intensity. Concrete panels have the inherent strength to perform as shear walls with little or no additional reinforcement. It is important, however, that the connections be designed to transfer lateral forces, and also accommodate thermal movements and differential deflections (or camber).



Interior shear wall system

Shear walls are economical because walls already required by the building layout [such as exterior or interior walls or walls of the elevator, stairway, mechanical shafts or cores] can become structural shear walls. Whenever possible, it is desirable to design shear walls as loadbearing panels. The increased dead load acting on the panel is an inherent advantage because it increases the panel's resistance to uplift and overturning forces created by lateral forces.

The effect of cumulative loads on connections between panels must be considered, since these loads become a significant factor in determining minimum panel dimensions. Shear walls in precast concrete buildings can be individual wall panels or wall panels which are connected together to function as a single unit. Connected panels greatly increase shear resistance capacity.

Connecting long lengths of wall panels together, however, can result in an undesirable build-up of volume change forces. Hence, it is preferable to connect only as many units as necessary to resist in-plane shear forces and the overturning moment.

In most cases, an exterior shear wall (or perimeter frame) system provides more efficient and flexible floor plans than does an interior shear wall system because it eliminates the need for a structural core.

Furthermore, exterior shear walls do not affect the interior traffic flow or sight lines. The exterior walls provide the vertical strength and horizontal connections to allow the entire wall to function as a single unit to mobilize dead load overturning resistance.

In an interior shear wall system, the lateral forces are not transferred directly to the foundation. Instead, the wall panels distribute the lateral forces to floor diaphragms, which, in turn, transfer them to a structural core or to the interior shear walls. Frequently, the shear wall panels are connected vertically and at the corners to form a structural tube that cantilevers from the foundation, creating a stronger element than its individual parts.

See information about architectural precast concrete units serving as forms for cast-in-place concrete in additional online reading.

Connections

Connections for loadbearing wall panels are an essential part of the structural support system. The stability of the structure depends upon them. It is desirable to design loadbearing precast concrete structures with connections, which allow lateral movement and rotation, and to design the structure to achieve lateral stability through the use of floor and roof diaphragms and shear walls.

Connection methods include bolting, welding, post-tensioning, grouting, or a combination of these techniques. The floor system may or may not have a structural topping. Often, loadbearing walls have horizontal and/or vertical joints across which forces must be transferred.

Connections must comply with local codes whose provisions generally vary across North America. Connections may be subject to functional requirements such as recessing for flush floors and/or exposed ceilings.

Horizontal joints in loadbearing wall construction usually occur at floor levels and at the transition to foundation or transfer beams. These joints may connect floors and walls or wall units only. The principal forces to be transferred are vertical and horizontal loads from panels above and from the diaphragm action of floor slabs.

Horizontal joint and connection details of exterior bearing walls are especially critical, because the floor elements usually are connected at this elevation, and since a waterproofing detail must be incorporated. Vertical joints may be designed so that the adjacent wall panels form one structural unit (coupled), or act independently. In addition to the vertical shear force transfer due to lateral loads, vertical joints also may be subject to shear forces induced by differential loads upon adjacent panels.

The stability of the structure during construction must be considered when planning erection procedures. Therefore, temporary guying and/or bracing must be provided until final structural stability is achieved in the completed structure. This bracing design is the responsibility of the precast concrete erector and should be shown on a bracing plan prepared by the erector.

Wall-to-Foundation Connections

Wall-to-foundation connections are used to tie loadbearing walls to the foundation. Any connection joining a wall panel to a foundation wall or a continuous



The architectural precast walls of 198 Inverness Drive West, Englewood, CO are the perimeter structural-gravity support for the floors and roof. Architect: POUW & Associates, Inc.

footing should provide a means of leveling and aligning the panel. The attachment method also should be capable of accepting the base shear in any direction. In cases where an interior core carries lateral loads, this may be accomplished with a simple welded connection.

Slab-to-Wall Connections

Slab-to-wall connections are made to join precast or cast-in-place concrete floor or roof members to precast concrete walls. Connections joining the slabs and walls may require load transfer or bearing, diaphragm action, and moment resistance.

Blockouts in wall panels can also be used to support floor members. Such pockets in wall panels or spandrels greatly decrease torsion stresses, and also minimize twist and eccentricity during erection.

When the slab functions as a diaphragm, the connections must transmit diaphragm shear and chord forces to a structural core, thus reducing the load on individual exterior wall or spandrel units and their connections. In those instances, simple welded connections can be employed to join panels.

Wall-to-Wall Connections

Wall-to-wall connections are primarily intended to position and secure the walls, although with proper design and construction, they are capable of carrying lateral loads from shear wall or frame action as well. The two locations of wall-to-wall connections are horizontal joints (usually in combination with floor construction) and vertical joints.

The most practical connection is one that allows realistic tolerances and ensures transfer of load between panels.

See examples of wall-to-foundations, slab-to-wall and wall-to-wall connections in additional online reading.

Concluding Remarks

Architectural precast concrete's full potential as loadbearing walls can be realized when the entire design or design/build team architect, engineer of record, mechanical engineer, contractor, and precaster has the opportunity to develop a project jointly starting at the project's preliminary design stage. Finish types, shapes, repetitive use of efficient and economical precast concrete modules, joint locations, access or site restriction, erection procedures and sequencing, all become important considerations for a project's successful completion. Properly implemented, an early and continuing dialogue between the designers and precaster will ensure maximum product quality and appearance at a minimum installed construction cost. ■



Two enormous portals that can be read from a distant highway mark the Merrill Lynch corporate office entrance in Englewood, CO. Architectural precast structural units with a finish mimicking Colorado red sandstone contrast with buff colored accents. Architect: Thompson, Ventulett, Stainback & Associates.

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As part of this CES learning activity, you are required to read additional material online. The additional reading will include diagrams on connections and application examples for loadbearing concrete wall panels. To access the material online, go to **www.pci.org/pdf/journal/loadbearing_panels.pdf**. Read pages 103–111 of the PCI Journal article provided.

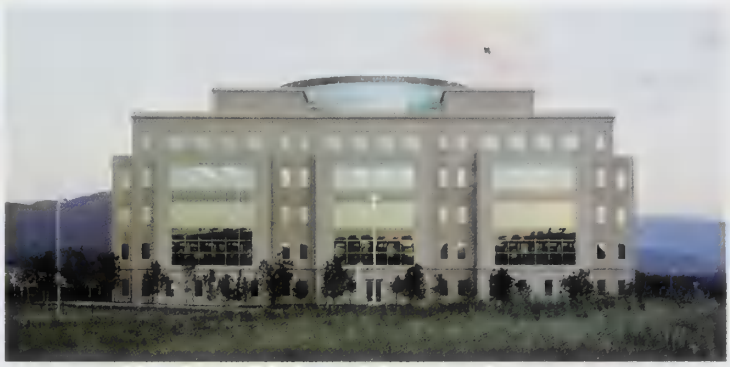
Loadbearing architectural precast units design benefits:

- **Speed of Construction:** Prefabrication combined with speed of erection s… overall construction time. Production of precast concrete components and … tion can proceed simultaneously. On-site labor cost is minimized, and erecti… in all kinds of weather. Construction is much faster with a fully integrated … and skin system where loadbearing wall panels provide both structural sup… and architectural finish. Rapid enclosure allows earlier access by finishing t… Faster completion reduces interim financing costs and results in earlier casl…
- **Eliminates Trades:** Loadbearing wall panels become part of the structural f… They form the supporting structure for floors and roof at the building peri… This generates interior space free of perimeter columns and interior bearing… providing maximum floor plan layout flexibility. When a loadbearing wall p… is erected, the architect and owner receive single-source responsibility for th… shell. This reduces the number of subcontractors and minimizes trade coor…
- **Economical, Attractive Structure:** Precast concrete loadbearing wall units, c… structural-aesthetic functional features, provide the opportunity to construc… nomical, attractive building. Such structures contribute significantly to the d… of contemporary architectural philosophy specifically, a system in which the … actually doing the structural work they appear to be doing.
- **Elimination of Steel Results in Savings**: Elimination of separate structural fr… exterior walls results in savings far exceeding the minimal additional costs of … reinforcement and connections required for loadbearing units. This savings is… apparent in buildings with a large ratio of wall-to-floor area.
- **High Quality Facade in All Shapes, Colors and Textures:** Precast concrete, ma… in factory-controlled conditions assures the highest quality possible, thus ensu… uniformly high quality facade in the desired shapes, colors, and textures. Greates… is achieved by using an integral architectural finish for both exterior and inter… Integral finishes not only result in a savings of material and labor, but also red… overall thickness of the exterior wall. This permits maximum interior space ut… Precast concrete panels resist weather and corrosion, requiring little or no mai… Their aesthetic versatility is virtually unmatched by any other material.
- **Decreases Trade Overlap:** Panels can be designed as receptacles and distribut… for electrical, mechanical, plumbing and HVAC sub-systems, thereby decreasin… overlap problems and eliminating the need for a separate wall cavity.
- **Reduces Heating and Cooling Costs:** Loadbearing window wall panels can inh… form deeply recessed window frames to provide a high degree of sun shading. … minimize air-conditioning system costs by reducing thermal load. Also, the the… mass of concrete and the possibility of incorporating insulation into a sandwich… panel contribute to reducing heating and cooling costs.
- **Design Flexibility:** Design flexibility for the precast exterior allows unique expr… while interior framing can be simple and standard. This provides an economical … for structures with varying loading, fire and space planning requirements. Precast co… aesthetic flexibility simplifies changes in plane, relief, color, and texture. Wall pa… can be custom designed in desired shapes and sizes or may be selected from a va… of standard sections depending on the building's intended use and budget. Final… are limited only by the designer's imagination.
- **Effective in Renovation Projects:** Wall panels can be used effectively to renovate an… bilitate old deteriorated structures. These panels can be used not only in all-precast str… but also in structural steel framed structures and cast-in-place concrete structures.

Advertising supplement provided by Precast/Prestressed Concrete Institute



The all-precast structural systems for Starz Encore Headquarters, Englewood, CO includes double tees, inverted tee beams, shear walls and loadbearing precast walls. The system is a common approach to design in the Rocky Mountain region.
Architect: Barber Architecture.



A bold sculptural form centering on a circular glass-topped atrium defines the Shepard's/McGraw-Hill World Headquarters in Colorado Springs, CO. The all-precast system offered the lowest cost and fastest construction schedule of several examined approaches.
Architect: Barber Architecture.

LEARNING OBJECTIVES

- Understand how architectural precast concrete wall units can act as loadbearing elements in a structure
- Learn how connections for loadbearing wall panels affect the structural support system
- Identify benefits of using loadbearing architectural precast units

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 238. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—*archrecord.construction.com*—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

Q: 1. Complex connection details can be minimized by:
A: a. Spanning loadbearing panels vertically through several stories
b. Using single-story horizontal panels

Q: 2. Due to the maximum transportable length in many states, multistory panels usually do not exceed ___ ft. in height:
A: a. 25
b. 35
c. 45

Q: 3. Which of the following is NOT a condition when loadbearing or shear walls should be the primary design consideration?
A: a. There is inherent structural capability of the units due to either their configuration or to sufficient panel thickness.
b. A uniform structural layout of the building facilitates distribution of lateral forces from wind or earthquake loads.
c. The building has irregular floor plan in region of moderate or high seismic risk.
d. The building has a central core or bay designed to absorb lateral forces and transfer them to the foundation.

Q: 4. The main advantages of precast cores versus cast-in-place cores are surface finish quality, greater flexibility of the precast concrete erection sequencing, and:
A: a. Lower Cost
b. Faster Construction

Q: 5. A shear wall system's effectiveness is dependent largely upon panel-to-panel connection design.
A: a. True
b. False

Q: 6. Which provides more efficient and flexible floor plans:
A: a. An exterior shear wall
B. An interior shear wall

Q: 7. Which connection is used to tie precast or cast-in-place concrete floor or roof members to precast concrete walls.
A: a. Wall-to-Foundation
b. Slab-to-Wall
c. Wall-to-Wall

Q: 8. Loadbearing panels size should consider the building bay size, repetition of units and floor member widths.
A: a. True
b. False

Q: 9. Savings due to elimination of separate structural frame is greatest with:
A: a. Small ratio of wall-to-floor area
b. Large ratio of wall-to-floor area
c. Low-or mid-rise structures

Q: 10. The loadbearing aspect limits the possible sizes, shapes and finishes of the panels and can not be used with strip and punched windows.
A: a. True
b. False

About PCI

The Precast/Prestressed Concrete Institute is a unique organization of producers, suppliers and professionals. PCI is dedicated to fostering greater understanding of the design and use of precast and prestressed concrete. It also encourages and recognizes excellence in the manufacture and use of these materials. Our professional members guide the Institute's efforts in product innovation, new technology adaptation, design methods development, training and quality assurance. Since its inception in 1954, PCI has been a dynamic force in the steady growth, and the current position of this expanding industry.

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and 16 different sizes.

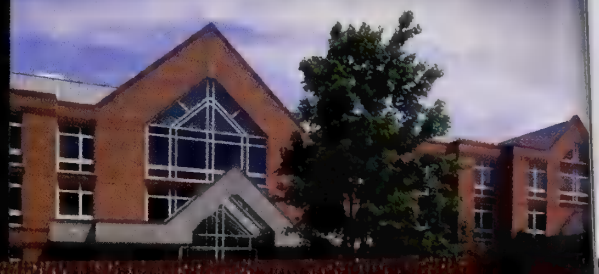


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Lighting

This month, Lightfair arrives in Manhattan, where recent projects display deft designs inside and out

BRIEFS

The National Lighting Bureau, a not-for-profit lighting-education organization sponsored by professional societies, trade associations, manufacturers, utilities, and federal agencies, has elected James M. Yorgey, technical applications manager at Lutron Electronics, as its chair. For more bureau information, go to www.nlb.org. In ***Architecture of the Night: The Illuminated Building*** (Munich: Prestel, 2003, 200 pages, $65), Dietrich Neumann surveys how architects, engineers, and lighting designers have created the nighttime illuminated appearance of major buildings during the past century. Selected biographies of lighting luminaries chart the emergence of the profession.

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Lightfair International, the annual trade show and exhibition for architectural lighting professionals, takes place May 3 through 8 at the Jakob K. Javitz Center in New York City. Visitors to the show can view innovations in illumination, from organic light-emitting diodes to silicon-microchip-powered luminaires, by 500 exhibitors. With courses ranging from basic to master's level, sessions and workshops offer more than 105 hours of education and discussion.

As a complement to the New York City show, this month we feature projects around town that demonstrate winning strategies in architectural lighting (plus one project by a Manhattan-based designer farther afield in Spain). At the Atlas, a new apartment tower in Midtown, Focus Lighting collaborated with architect Stephen Alton to create illumination that fosters an artful sense of arrival. Projected images and layered patterns of light serve as set pieces, while canted ceiling planes and Cubist-like mirrored walls are foils for accent illumination (photo, right).



For the offices of the Fallon advertising agency, the architecture of the 1913 Woolworth Building inspired MAP Architecture + Design and Goldstick Lighting Design to embrace abstract neo-Gothic motifs for lighting and interior details. The spare spaces employ T8 fluorescents, illuminated display cases, and projected colored light for an office landscape in step with the creative teams at work.

Long a landmark overlooking Madison Square Park, the MetLife Tower was enhanced by new exterior illumination by Horton Lees Brogden Lighting Design (HLB). The custom luminaires, in fact, were developed by two manufacturers brought together by Stephen Lees to forge a new type of exterior fixture to suit the site.

Complementing its architectural lighting practice, HLB last winter launched eLumit (www.eLumit.com), the first comprehensive Web search engine designed by lighting designers for lighting specifiers. The free-access site includes links to manufacturers' specifications, photometrics, and application guides. A secure work-space area allows users to track project specs, schedules, and budgets. It's a helpful resource, with many of the players at Lightfair already onboard. *William Weathersby, Jr.*

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Creative Uses

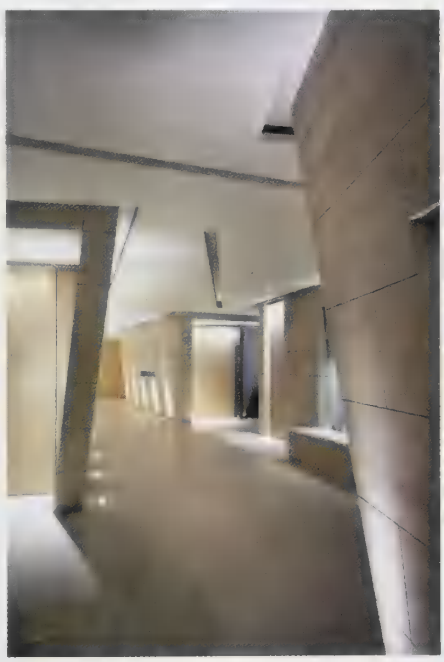
Architects working in Japan shape light and space • A fanciful chandelier enlivens a public venue in Spain • REID reflects on office lighting techniques at its new London headquarters

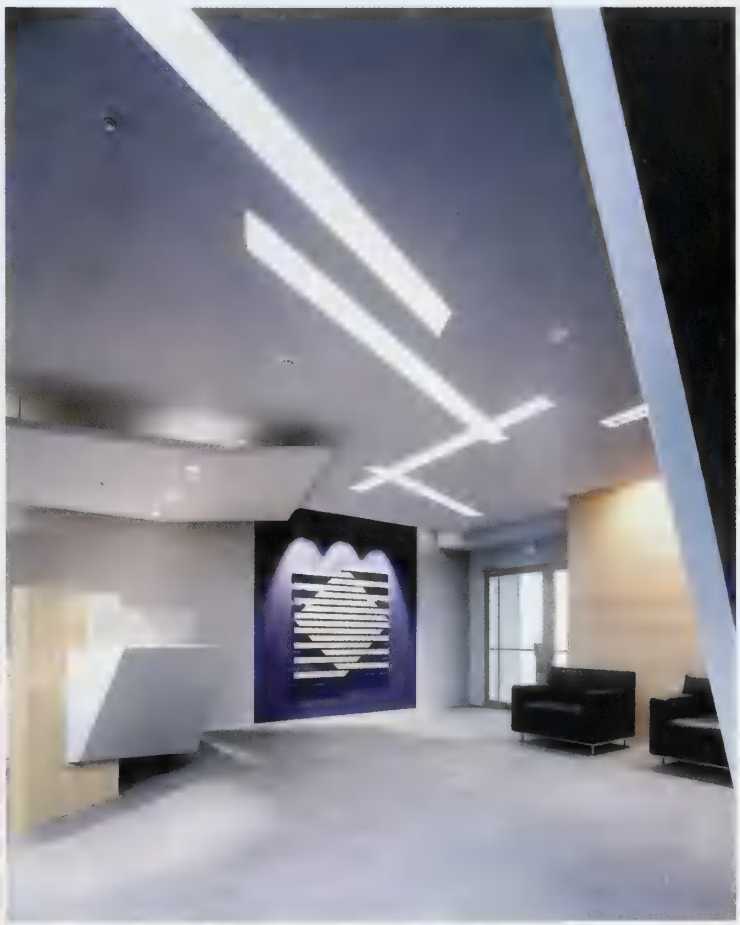
Dasic Architects designs three light-filled offices for Western companies in Tokyo

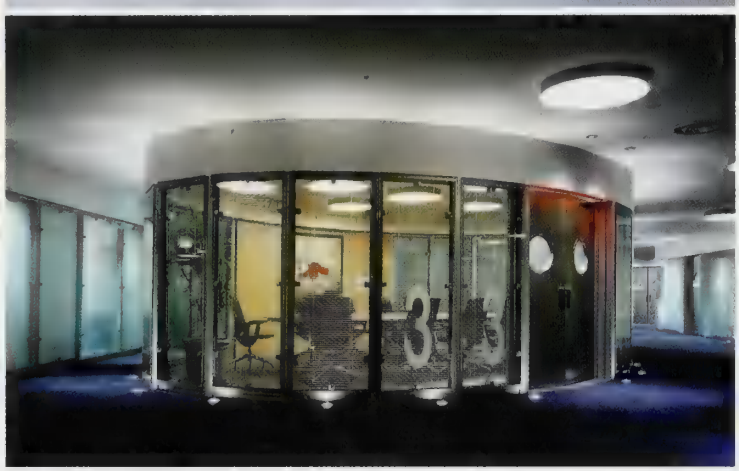
"Traditional Japanese architecture and style are a natural match for my own design aesthetic," says Tokyo-based architect George Dasic. "Minimalist, simplicity with order, and subtle details articulated in materials and lighting."

Born in Belgrade, in the former Yugoslavia, and educated at the Architectural Association in London, Dasic began his career working on large office projects in the U.K. Based in Japan since 1991, the architect first worked with local architects for Japanese corporate clients. When the country's economic bubble burst, he established his own firm in 1994, designing offices primarily for Western financial institutions in a time of mergers and expansions in Japan.

"Financial institutions, with their trading floors and massive communications and equipment requirements, provide the perfect ground for developing an architectural language built around negotiating complex layers created by organizational hierarchies," Dasic says. "Often I make the analogy between the urban fabric of Tokyo and the trading floors we design, the ultimate exercise in establishing order out of chaos."







Clockwise from above: Lighting plays a key role in defining the offices of Deutsche Bank, Munich Re, and UBS Warburg in Tokyo.

At the offices of Deutsche Bank in central Tokyo, canted corridor walls of stone are juxtaposed with transparent glass panels to generate a feeling of what Dasic calls "suspended motion." For lighting, Dasic collaborated with designer Bob Venning of Arup in London. In the reception area, a backlit ceiling grid gives the feeling of space "exploding upward," Dasic says. A company logo and triptych are illuminated by 50-watt, low-voltage spotlights, while color-changing fiber-optics backlight a waterfall. Along corridors, floor-recessed uplights emphasize the texture of the stone walls. Behind frosted-glass panels, dimmable fluorescents specified at 3,000K and 4,200K accommodate varied effects. Isamu Noguchi's Akari lamps serve as grace notes. Office walls are grazed by low-voltage downlights, with some areas backlit by fluorescent wall washers. On the two trading floors, custom circular luminaires are set within metal ceiling tiles that accommodate mechanical systems.

For Munich Re, space is split between general office use and areas for hosting seminars and clients. Lighting complements an interplay of geometrical forms detailed in concrete, stucco, granite, beech, and aluminum. Sliding doors reminiscent of shoji screens divide space, while slashes of diffused fluorescent light along the ceiling lead guests and employees through the reception area and corridors. Custom pendants, called "origami lights," feature fluorescent sources encased in folded panels of rice paper sandwiched between glass.

At UBS Warburg, a procession of glass-box enclosures glows along corridors. Custom pendants of coated glass and stainless steel combine fluorescent and incandescent sources. Their circular shapes echo portholelike windows that pierce doors. Low-voltage fixtures create a "welcome mat" in front of each room. *William Weathersby, Jr.*

Creative Uses

A school of floating light spheres casts a golden glow on Valencia's underwater world

Santiago Calatrava's City of Arts and Sciences, in Valencia, Spain, is a mammoth "city within a city," home to an opera house, planetarium, and an aquarium that was conceived by architect Felix Candela as a world beneath the sea. Clad in a thin white concrete shell, the Oceanographic Park's two-level main building emerges from a man-made lake in an arc that recalls the majestic pattern of a fish breaking the waves.

Inside, a school of illuminated spheres floats in midair, echoing the organic forms of the marine life on exhibit. Born not of the sea, but from the mind's eye of Israeli designer Ayala Serfaty [RECORD, November 2002, page 292], the evocative light sculpture *Stand By* makes an aesthetic connection between floors while resolving functional issues in the building's program.

Serfaty, whose firm Aqua Creations is known for lighting designs that evoke an ethereal or underwater feeling, was asked to join the project by Valencia-based interior designer Francisco Vasquez. The lighting designer's challenge was to illuminate the 49-foot-diameter open space, which connects a cafeteria on the ground level and an elegant underground restaurant enveloped by a 360-degree aquarium. Lighting components had to block daylight, then create nighttime ambience on the lower level, as well as minimize noise and obscure views of diners below from the crowds above.

The open space inspired Serfaty to envision a "flock" of luminous floating objects. In her Tel Aviv studio, 49 lighting spheres were handmade by applying delicate layers of crushed silk onto laser-cut metal structures. Each sphere, measuring 61.5 inches in diameter and 8.5 inches high, is fitted with six 21-watt compact fluorescent bulbs.



Serfaty's chandelier combines crushed silk, metal, and compact fluorescents.

The concrete on the ceiling was too thin to bear the weight of the spheres, leaving the perimeter slab as the only means of support. Engineer Dewhurst Macfarlane and Partners devised a structural solution: a stainless-steel system that supports all 49 spheres from a central column and attaches to the slab via three cables. *Leanne B. French*

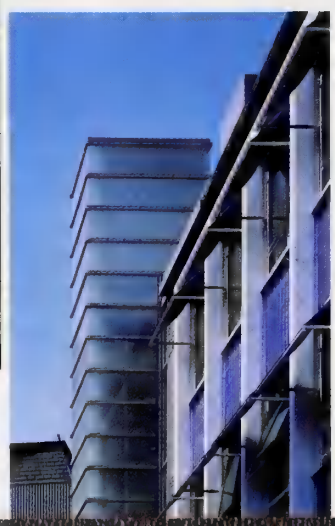


An illuminated elevator tower and external blinds enhance West End House.

An architect's own office addresses lighting and energy concerns

When REID Architecture chose to centralize its operations by merging two London offices, the firm decided to make a bold statement about its practice, creating a showcase for innovation and sustainable office design.

For its new headquarters, the project team renovated West End House, a nondescript, 1950s-style office building situated on a narrow, dark street near Oxford Circus. The architects envisioned a striking arrival point with a new glass-enclosed tower housing a color-shifting illuminated elevator. "We wanted to give a visual lightness to the building and express vertical and horizontal movement with glass and light," says firm director Andrew Leckenby.



In the entrance elevator lobby, blue-gelled fluorescents cast a cool glow at ground level and subsequently change color in lobbies on each floor. The elevator itself is illuminated with colored metal halides. Lighting also highlights the tower's use as a ventilation shaft: red and yellow colored spots accentuate dampers on each floor.

Steel-framed bridges with timber decking and handrails provide access from the elevator lobbies to the offices. Rather than a typical reception area, an open gallery doubles as exhibition space. Illuminated by a track system with dichroic spotlights, it offers dramatic views of Oxford Street. Open-plan work areas are indirectly illuminated by T5 fluorescents reflected off exposed soffits. General light levels are reduced from approximately 32 to 14 foot-candles to accommodate individual task lighting. Breakout meeting spaces are illuminated by exposed T5 fluorescents.

The architects maximized the impact of daylight within the building. New double-glazed aluminum windows with integral vents provide fresh air into offices as required by workers. External motorized blinds, controlled by light sensors on the roof with manual overrides on each floor, limit solar gain. *L.B.F.*

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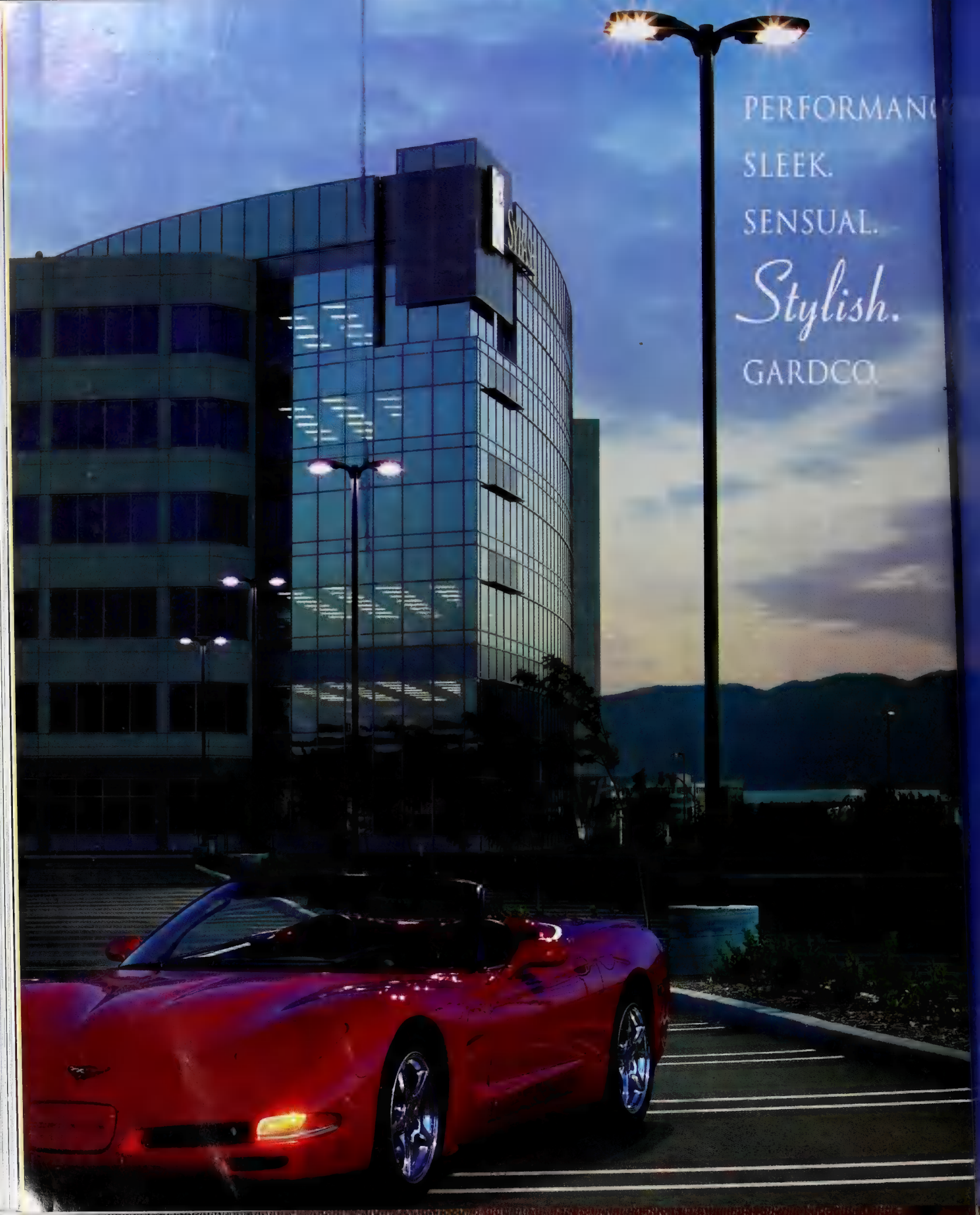
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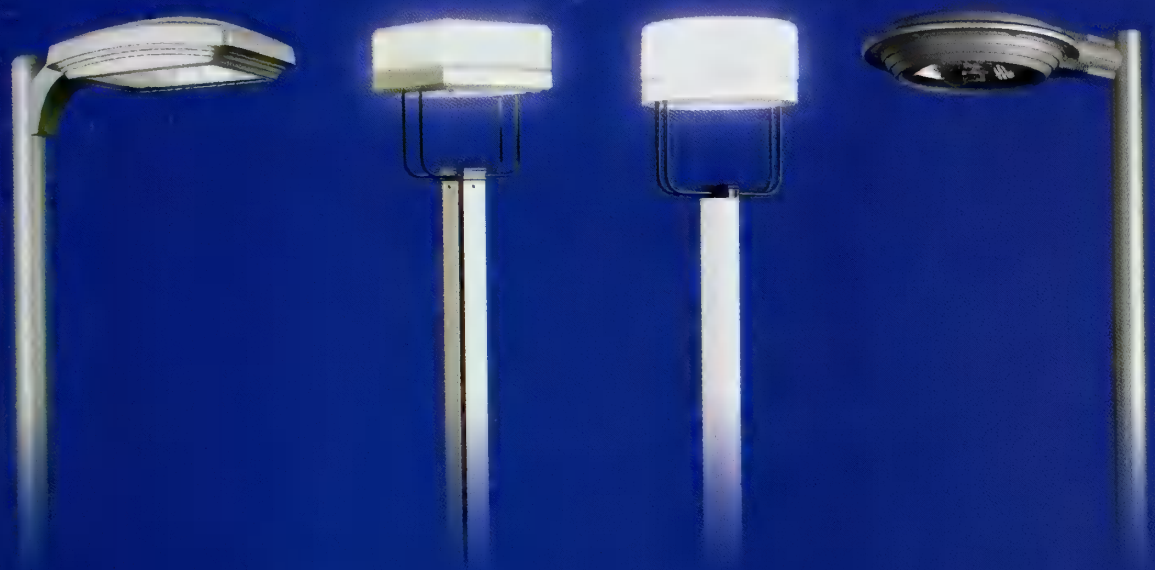
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...the ... Tower, Stephen ... enlisted two manufacturers to create a custom architectural fixture that weds a long-life floodlight with a color-changer insert.

Fitted with custom fixtures born of new technologies, **MetLife Tower** in Manhattan sparks its "eternal light"

By John Calhoun



Since 1909, the 50-story Metropolitan Life Insurance Tower has been an indelible part of the landscape near New York City's Madison Square Park. At one time the world's tallest building, at 700 feet, the tower at One Madison Avenue was surpassed just four years after its unveiling by the Woolworth Building. Decades later, it suffered the indignity of a 1960s modernization, when its gold-leafed cupola was reclad in anodized aluminum. But the tower's crowning lantern—coined the "eternal light"—has continued to shine, and its clock faces on all four sides have helped a neighborhood keep time.

As part of a $30 million restoration undertaken by the Metropolitan Life Insurance Company and overseen by Building Conservation Associates, the MetLife Tower now stands as a new, improved version of its old self. The cupola has been regilded with 23.75-carat Italian gold leaf, and the cracked Tuckahoe marble facades have been replaced, as have damaged white and turquoise tiles on the clock faces. Originally designed by Napoleon Le Brun & Sons, and modeled on the campanile at St. Mark's Square in Venice, the tower is on the National Register of Historic Places.

The building's facelift is most dramatic at nightfall: The restoration encompassed relighting the clock and the top floors, including the cupola and the eternal light. "The old system just wasn't that good at lighting the building," says Stephen W. Lees, senior principal of the lighting design firm Horton Lees Brogden. To meet the company-sponsored holiday programming, rain or shine, crews had to climb out in very exposed conditions and manually attach acrylic color filters to achieve, say, the tower's green and red Christmas vestments or red, white, and blue Fourth of July colors. Given labor and safety issues, and with the side benefit of expanding its holiday and event programming, MetLife wanted to automate the system.

"When the project began in 1999, there was really only one exterior color-changing fixture available in the marketplace," says Lees. "It was a converted theatrical projector spotlight that had a lamp life of about 700 hours—not long enough for an architectural installation. So we did some rummaging around and ended up marrying [the technologies of] two companies."

Sterner Lighting, a veteran in the exterior floodlighting business, collaborated with Motion Development Inc. (MDI), which specializes in custom scroller and dichroic color-changer installations. "Sterner made a low-profile custom fixture with a ballast and housing, and MDI made a color-changer insert," says Lees. The designer established 12 standard colors, but by using a subtractive cyan, magenta, and yellow process, the system can "give us any color in the spectrum that we want."

That ability depends on a full-spectrum source, which led Lees to specify ceramic metal-halide lamps, a substantial color-rendering improvement on the tower's existing 1960s-era metal-halide lamps. When the project began, the largest lamp of this type was 150 watts, but with vigorous encouragement by Lees, the manufacturer produced a 400-watt lamp, with a CRI of around 90 and a rated average life of 15,000 hours.

One problem with the building's preexisting lighting had been a spottiness in the washes, which originate from setback roofs and decks on the 31st, 35th, 39th, 45th, and 46th floors. The designer's method of supplying a more even floodlight across the tower faces was to replace the old 1,000-watt units with two to three times as many of the 400-watt lights, spaced closer together. Therefore, Lees says, "if a lamp goes out, it's not really seen; you don't have to change it immediately every time."

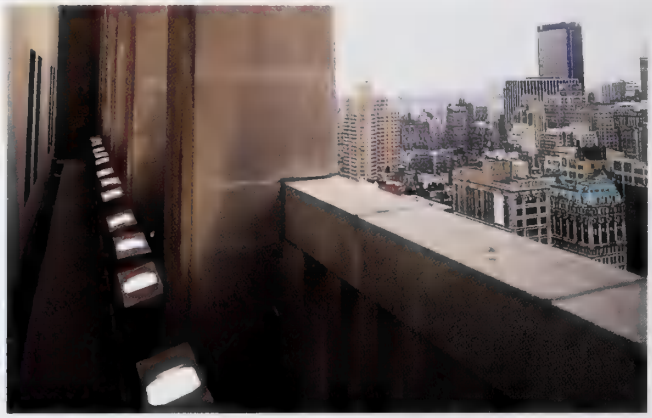
Other strategies included changing out the high-pressure sodium fixtures illuminating the cupola, and replacing the lantern's incandescent fixtures with high-output fluorescent sources behind a glowing translucent glass. When the clock chimes each quarter hour, the lantern flashes red. As for the two-story clock itself, says Lees, "We had

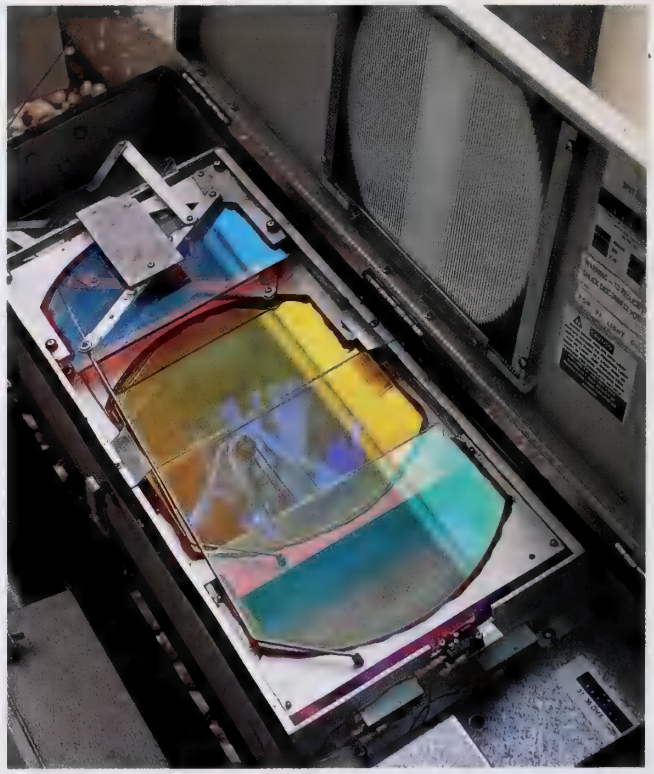
John Calhoun is a freelance writer and editor based in New York City. He frequently writes about lighting and cinema design.

Project: *MetLife Tower, New York City*
Architect, restoration consultant: *Building Conservation Associates—Raymond Pepi, Stacy Albanese*
Lighting designer: *Horton Lees Brogden Lighting Design—Stephen Lees, IALD, senior principal; Chad Groshart, designer; Mark Harris*
Electrical engineer: *Jaros Baum & Bolles*
Electrical contractor: *Kleinknecht Electric*
Construction manager: *Structure Tone*



The computer-controlled custom fixtures fitted with ceramic metal halides can create virtually any combination of colors (above). Set within custom-designed fixtures, the 400-watt lamps have an average life of 15,000 hours (right and below right).





fiber-optic elements made, one for each minute dot with a separate cable, and separate ones for each number, screwed to the inside. The fiber runs to illuminators, which all have color wheels controlled with DMX protocol." The clock arms are lit by compact fluorescents on a trolley system.

All exterior lighting and color changes are run through an automated show controller on the tower's 26th floor. Lees is working on establishing a remote access system from his offices, which overlook the tower from a building half a mile away.

COLORED LIGHTING ONCE REQUIRED GELS REPLACED BY HAND, BUT NEW AUTOMATED FIXTURES OFFER A RAINBOW OF EFFECTS.

MetLife's regular holiday program ran on the new system throughout 2002, but because each fixture has its own computer-controlled address, there is an untapped capacity to tackle more complicated spectacles."For Fourth of July, we could program waving flags," Lees says, by example. He encourages MetLife to illuminate its showplace as an important part of the urban fabric. "Illuminated landmarks belong to the people of the city and should reflect the cultural life of its people." ■

Sources

Custom floodlights: *Sterner Lighting/MDI*

Fiber-optic components: *Visual Lighting Technologies*

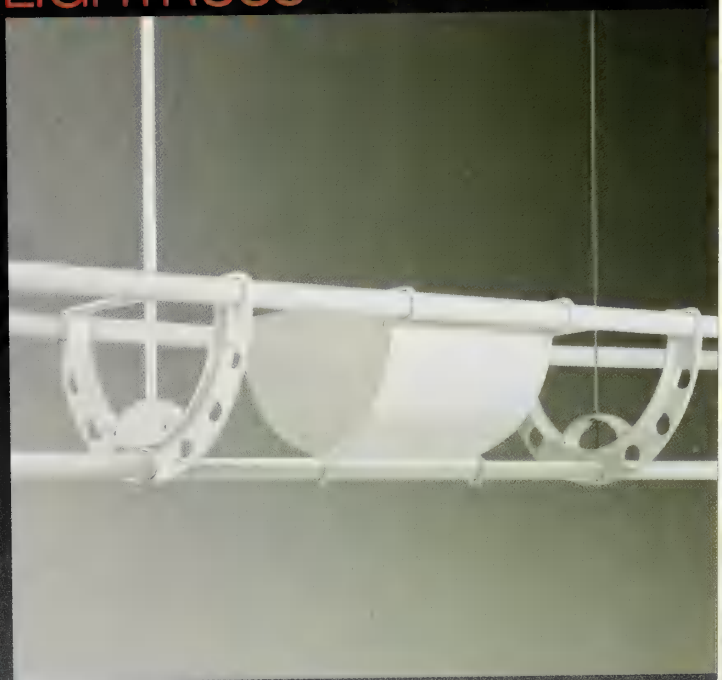
Fiber-optic illuminators: *Special-T Lighting*

Fluorescent striplights: *A+L Lighting*

Controls: *Horizon Control*

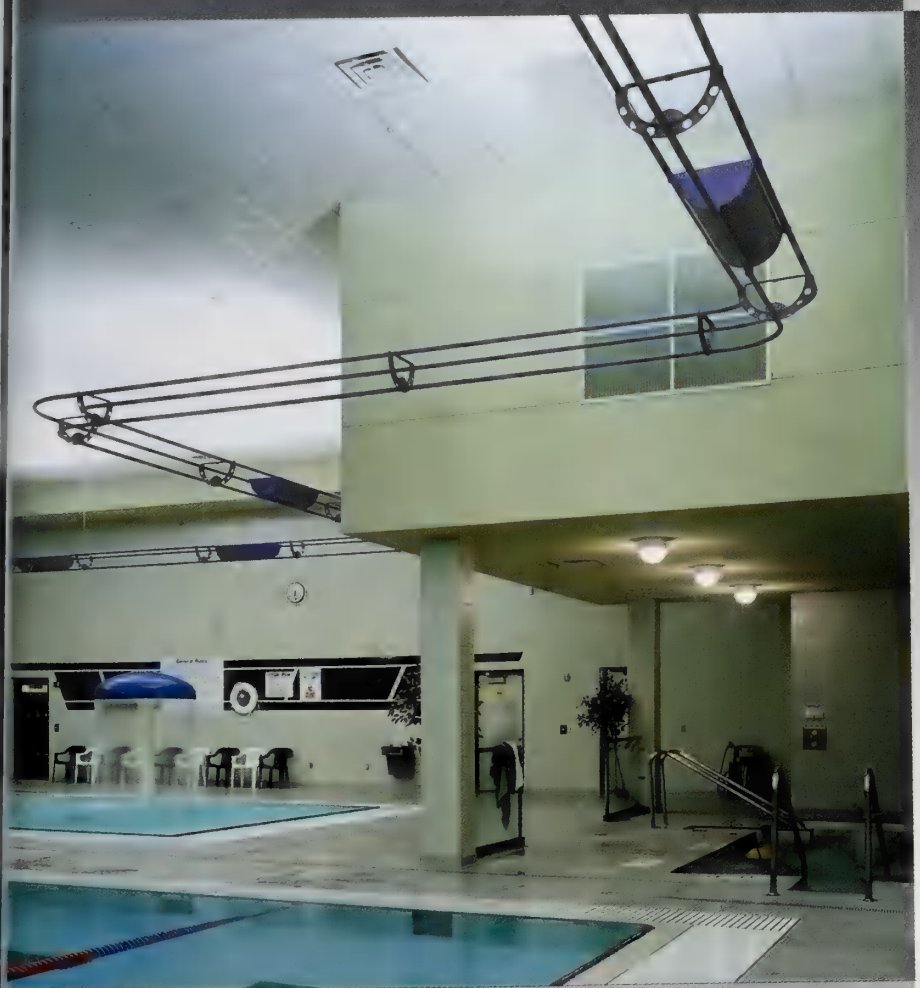
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A photomontage, which combines the images of a swatch of fabric and a waterscape, creates an evocative backlit grid. Lighting from the lobby spills through the sand-blasted glazing as a beacon (opposite).

With faceted interior planes enhanced by colored lighting effects, this **Atlas** doesn't shrug, it shines

By William Weathersby, Jr.

Long known as the Garment District, the slice of midtown Manhattan in the West Thirties has gone upscale with a new marketing moniker, the Fashion District. Dressing up its concentration of apparel workrooms and wholesalers, with its platoon of clothing racks traversing the sidewalks, the area now counts a Fashion Walk of Fame and the seasonal fashion shows under grand tents in nearby Bryant Park as publicity windfalls.

The 48-story Atlas, a new apartment tower in the heart of the area on West 38th Street, is embracing a complementary voguish imagery. The developer, the Gotham Organization, commissioned a lobby that engages tenants and guests in a colorful, modern setting. Designed by architect Stephen Alton, who collaborated with Paul Gregory of Focus Lighting, the lobby is a progression of spaces where sculptural interior surfaces incorporate contrasting lighting elements that recall art installations. "The arrival spaces are meant to abstractly function as a runway for tenants and patrons," Alton says. From the front entrance, the spaces proceed through colorful, theatrical vignettes toward brighter-lit "backstage" areas closer to elevators, mailboxes, and service areas. Fashion isn't a literal theme, yet the Atlas lobby's color, scale, and imagery subtly relate to the neighborhood's milieu.



Using the techniques of "key" and "fill" lighting, the designers enhanced interior architectural details, defining each area with a distinct color. With a cubist mirrored wall, backlit mural, expanses of marble, granite, and limestone, and canted ceilings incised by reveals, "the architectural envelope serves as the frame, while lighting is the art," says Alton.

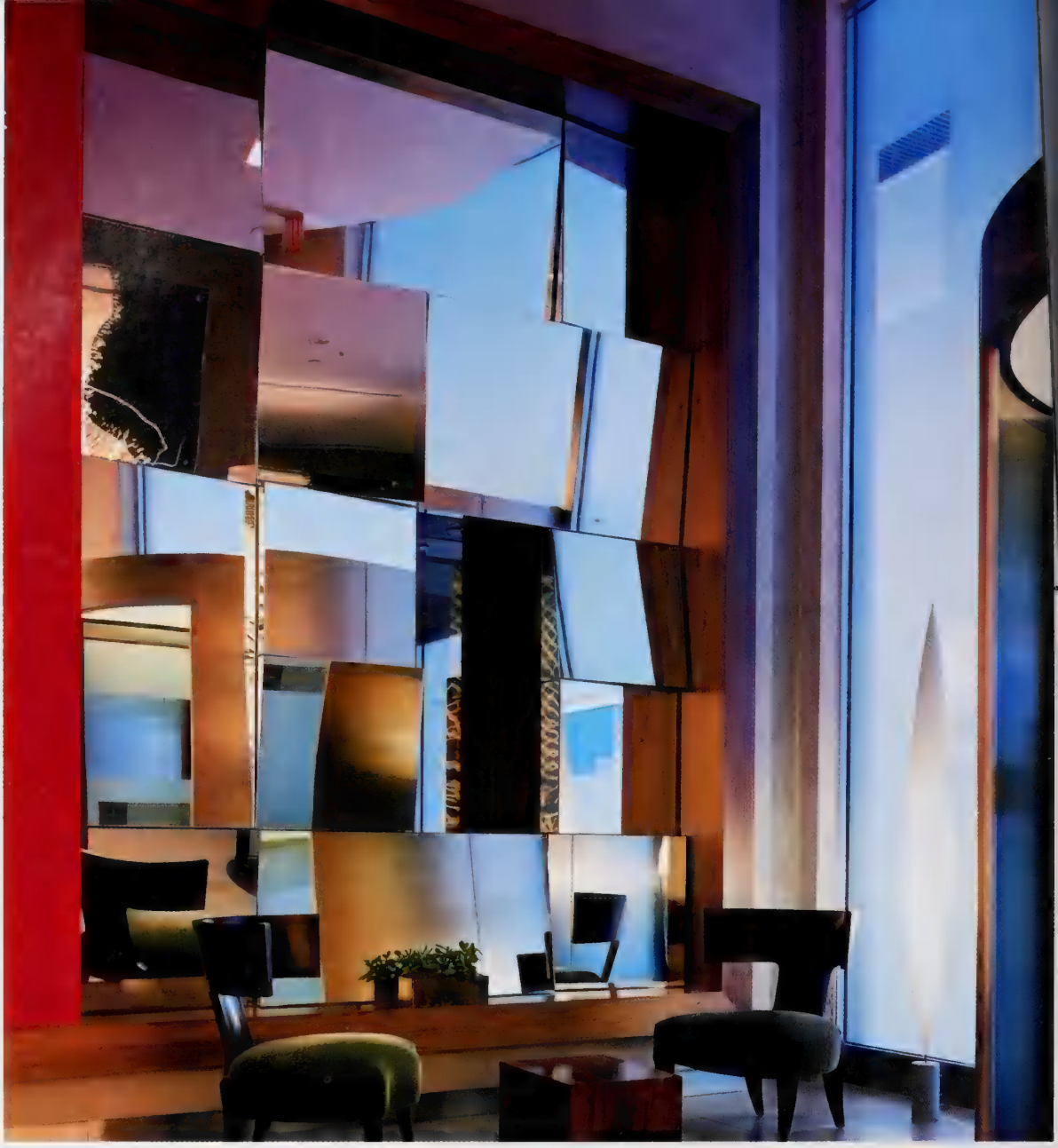
Aside from their creative flourish, the lighting effects have prag-

Contributing editor William Weathersby, Jr., is a freelance writer based in New York City. He edits the interiors and lighting sections of RECORD.

Project: *Atlas, New York City*
Owner, general contractor: *Gotham Organization/Gotham Construction—David Picket, president; Trevor Marshall, executive project manager; Ken Miller, vice president of development*
Interior architect, designer: *Stephen Alton Architect—Stephen Alton, principal; Michael McNeil, project designer; Masako Fukuoka, project interior designer*
Lighting designer: *Focus Lighting—Paul Gregory, principal designer; J.R. Krauza, project designer; Bill Plachy, project manager*

PHOTOGRAPHY: © EDUARD HUEBER/ARCHIPHOTO

A faceted-mirror wall in the lobby refracts views and daylight flowing through the sandblasted glazing, as well as downlight from ceiling-recessed MR16 luminaires fitted with louvers (right). At one end of the elevator lobby (below), a fashion photo by Jeanloup Sieff is projected onto the wall by an ellipsoidal reflector. Neon and T8 fluorescents create ambient illumination.





matic underpinnings. Achieving the look of art installations was more affordable and easier to maintain by lighting than by commissioning or purchasing works of fine art, Alton and Gregory agree.

The main feature of the lobby is a 12-by-18-foot backlit photomontage designed by Alton and printed on glass panels. A close-up image of a swatch of fabric frayed at its edges evokes a city grid when overlaid onto a waterscape photo. The montage is illuminated by T8 fluorescent strips fitted with 3,000K lamps, dimming ballasts, and color sleeves. "This gave us the best color to capture the image details, and the control to vary the intensity of the wall with the incoming daylight," Gregory says.

The opposite wall is enlivened with a light sculpture. Using two 150-watt ceramic metal halide ellipsoidal reflectors recessed in the ceiling, the design team projected the illusion of red light emitting from behind the wall, evoking a work by James Turrell. The ceramic metal halide lamps meant minimal maintenance and relamping, ensuring the focus of the image would not be disturbed. Accent lighting at nearby seating areas and at a concierge desk is supplied by ceiling-recessed MR16s.

A granite-lined alcove known as the "water passage" serves as a transition between the main lobby and the elevator corridor. The west wall is a sheet of water cascading down a panel of stainless steel. The water

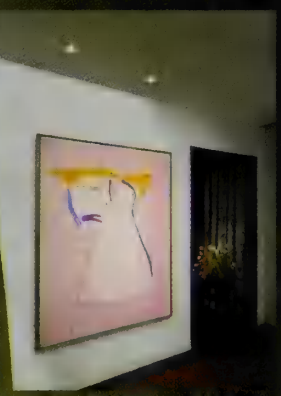
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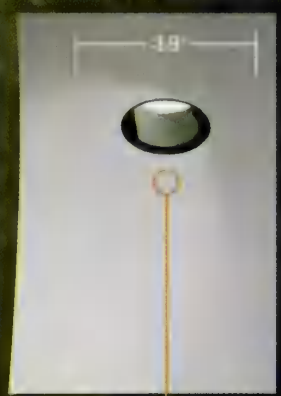
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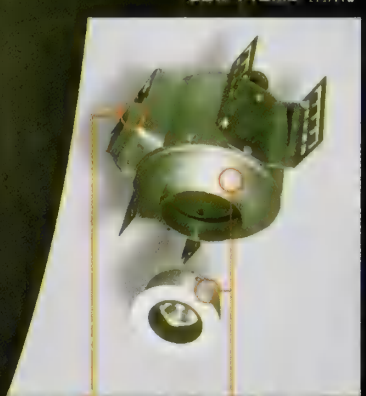
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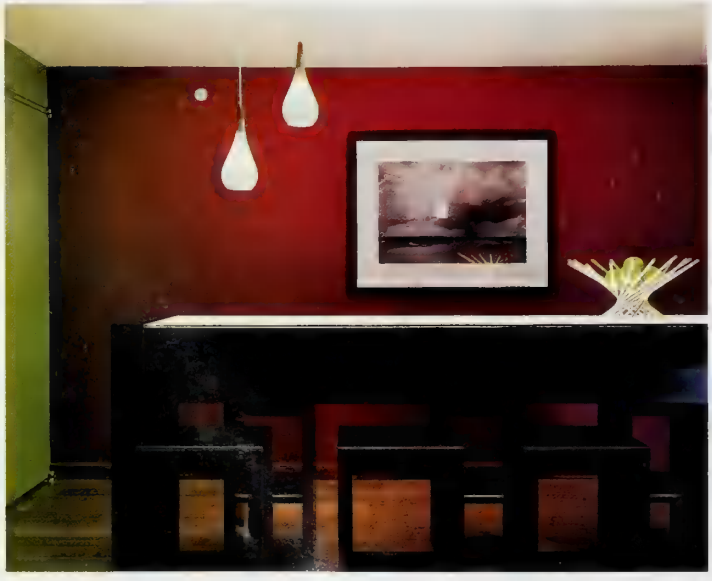
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As a transition from the lobby to the residential elevators, an alcove features a canopy edged with blue neon (above left). Elevator cabs are equipped with color-changing LED strips that feature changing messages (above right). Alton designed a custom illuminated table in the lounge (below).



effect is grazed by T8 fluorescent strips fitted with color sleeves mounted in a cove above. A rectangular ceiling cove with knife edges is lit with deep blue neon, creating the illusion of an endless night sky overhead.

The monochromatic elevator lobby is lined with Carrara marble. Flanking each elevator, a vertical section of marble is backlit by 2,800K neon. Additional T8 fluorescent lamps at 3,000K with dimming ballasts provide ambient light. The endpoint of the corridor showcases a custom 6-foot-high projection of a fashion photograph onto the marble wall.

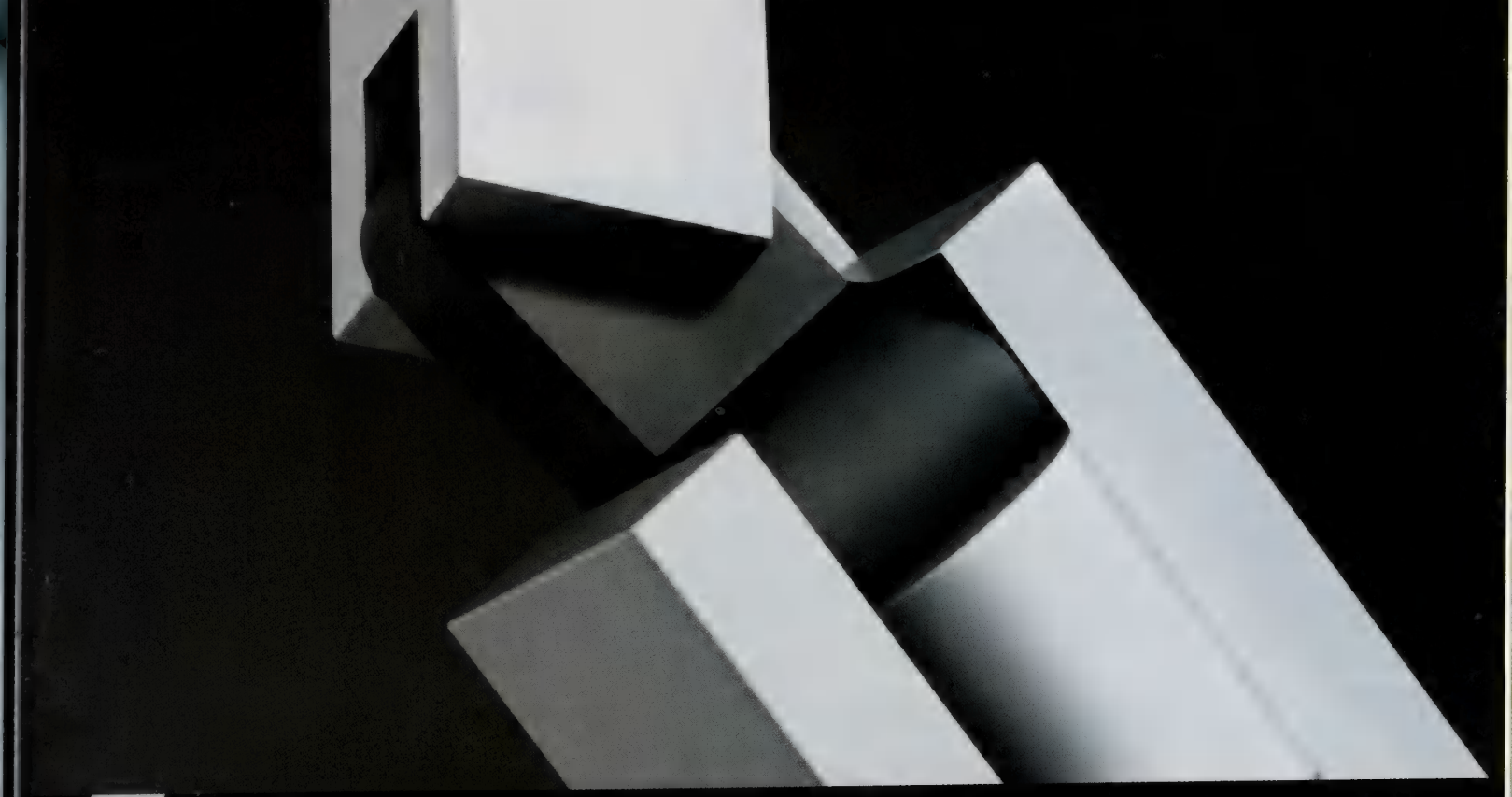
RATHER THAN DECORATIVE SURFACES OR ARTWORK ON DISPLAY, LIGHTING REINFORCES THE TOWER'S UPSCALE LOOK.

Color-changing LED fixtures are unexpected details defining the rear of each elevator cab. The LED units display messages and graphics while providing most of the illumination. New messages are programmed by building staff via a wireless computer network. Additional T8 fluorescents set within a curved ceiling cove heighten ambient lighting.

In the mail room, an elliptical cove pierces the ceiling plane, with red-orange neon evoking a sky at sunset. A shelf below the mailboxes is backlit by a low-voltage striplight. At the Atlas, even collecting one's junk mail becomes a theatrical experience. ■

Sources
Downlights: *RSA Lighting*
Fluorescents: *Lamar Lighting*
Ballasts: *Lutron*
Projections: *ETC; Altman Lighting*
Low-voltage striplights: *Tokistar*
Elevator LEDS: *LED Effects*
Neon: *Manhattan Neon*
Dimming system: *ALM*

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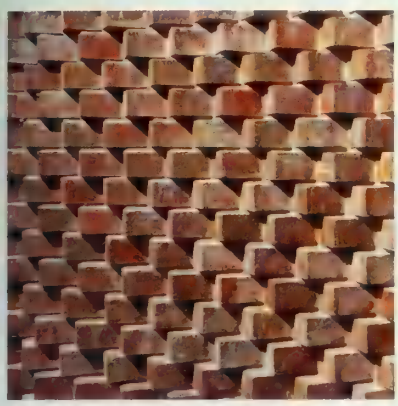
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Brick IN ARCHITECTURE

VOLUME 60 NUMBER 2







THE 2003 BRICK IN ARCHITECTURE AWARDS







Renovations to Little Hall

Princeton University, New Jersey





Architect:	Kieran Timberlake Associates LLP Philadelphia, Pennsylvania
Partner-in-Charge:	Stephen Kieran, FAIA
Project Team:	James Timberlake, FAIA, Amelia Floresta, AIA, Sam Robinson, RA, Linh Tran, Yves Gauthier, Clifton Fordham, Marceli Botticelli
Photographer:	Barry Halkin Photography Philadelphia, Pennsylvania



" In these hundreds of submissions, we saw a lot of found industrial buildings that had major interventions to make them offices or whatever else, and they were all successful to some degree, but this one was just a gem. It's a great found object, a reclamation that really capitalizes on what's there. It's serious, with the architects making great utilitarian use of what they had found, but then playful as well; they obviously had fun adding in these artful little panels. A very resourceful use of the space. By capitalizing so well on what was already there, this building really took a leap."

The Jury

inside this issue

The Brick Industry Association, in conjunction with *Architectural Record*, is pleased to present the six winners of the 2003 Brick in Architecture Awards, presented alphabetically by firm.

Church of St. Mary at Fremont Center

Mundelein, Illinois

Architect: Lohan Caprile Goettsch Architects
Chicago, Illinois

Principal-in-Charge: Dirk Lohan, FAIA

Project Architect: Al Novickas

Project Manager: Jim Schubert

Photographer: Dirk Lohan, FAIA

" This is the one, single project that really captures a sense of space. It fits in the landscape as if it was always there. Breathtakingly simple. There's a serenity to it. The brick portions anchor it into the plane, and then the sanctuary portion of the building completely soars. Mounting the solid material against the transparency of the glass is very effective. There's an otherworldly quality to this design."

The Jury





Addition to the Timothy Dwight Elementary School

New Haven, Connecticut

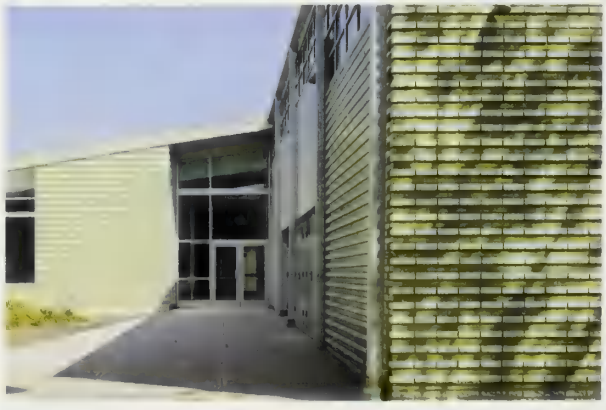


Architect:	Michael Haverland Architect/ Yale Urban Design Workshop New York, New York & New Haven, Connecticut
Project Designer:	Michael Haverland, AIA
Associate Architect:	TAMS Consultants Boston, Massachusetts
Photographer:	Andrew Bordwin Photography New York, New York



" This was the most fun school project we'd seen. Just joyful. A delight. A simple building in the best way. It doesn't pretend to be something it's not, that is, a little red schoolhouse. It doesn't aspire to be anything more than the lovely little school that it is. And its elegantly simple skin will make a nice addition to the neighborhood."

The Jury

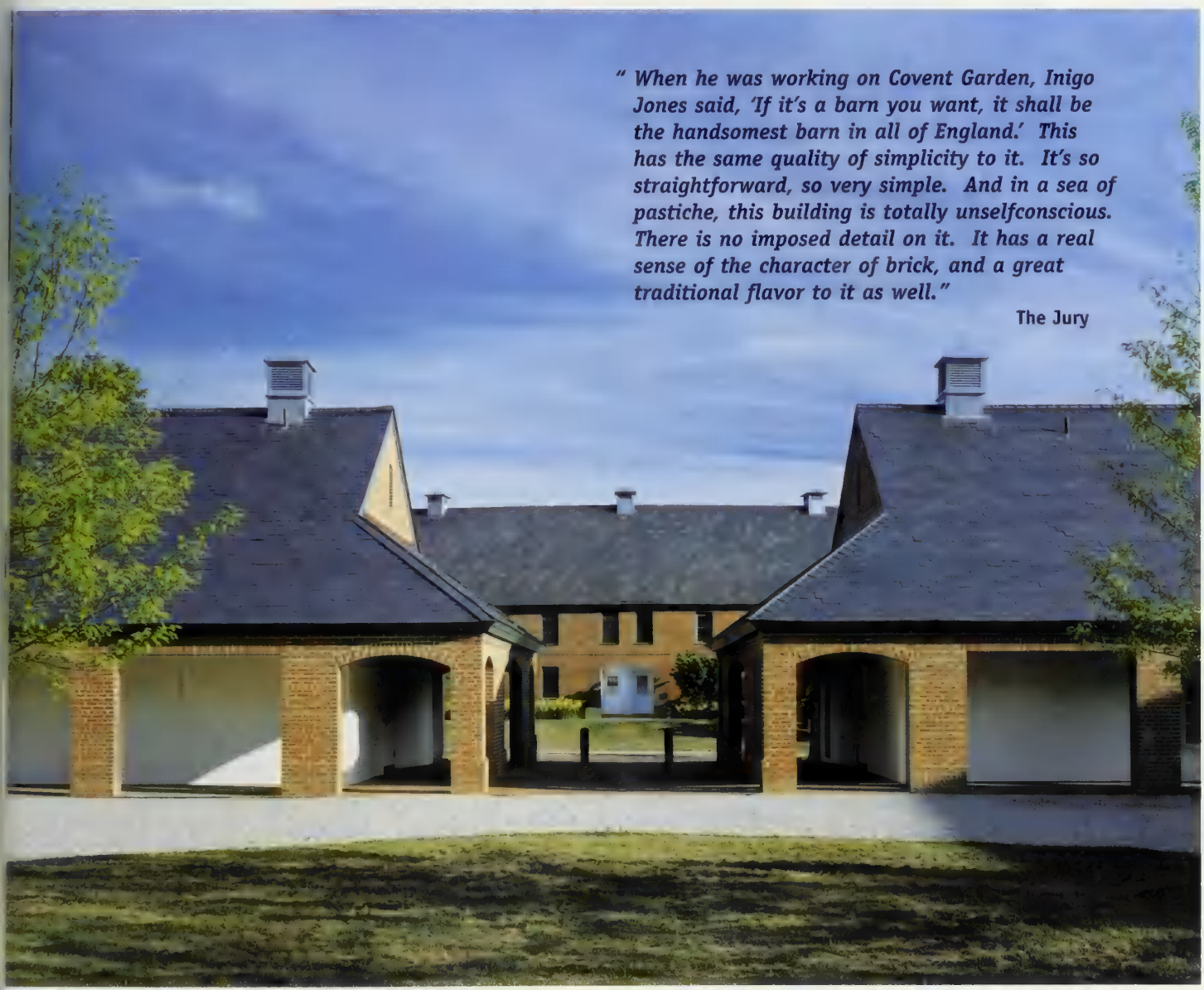


New Student Housing Complex

St. Mary's College of Maryland
St. Mary's City, Maryland

Architect:	Muse Architects Washington, DC
Principal:	Stephen Muse, FAIA
Project Architects:	William Kirwan, AIA, John Thorp
Photographer:	© Alan Karchmer Washington, DC



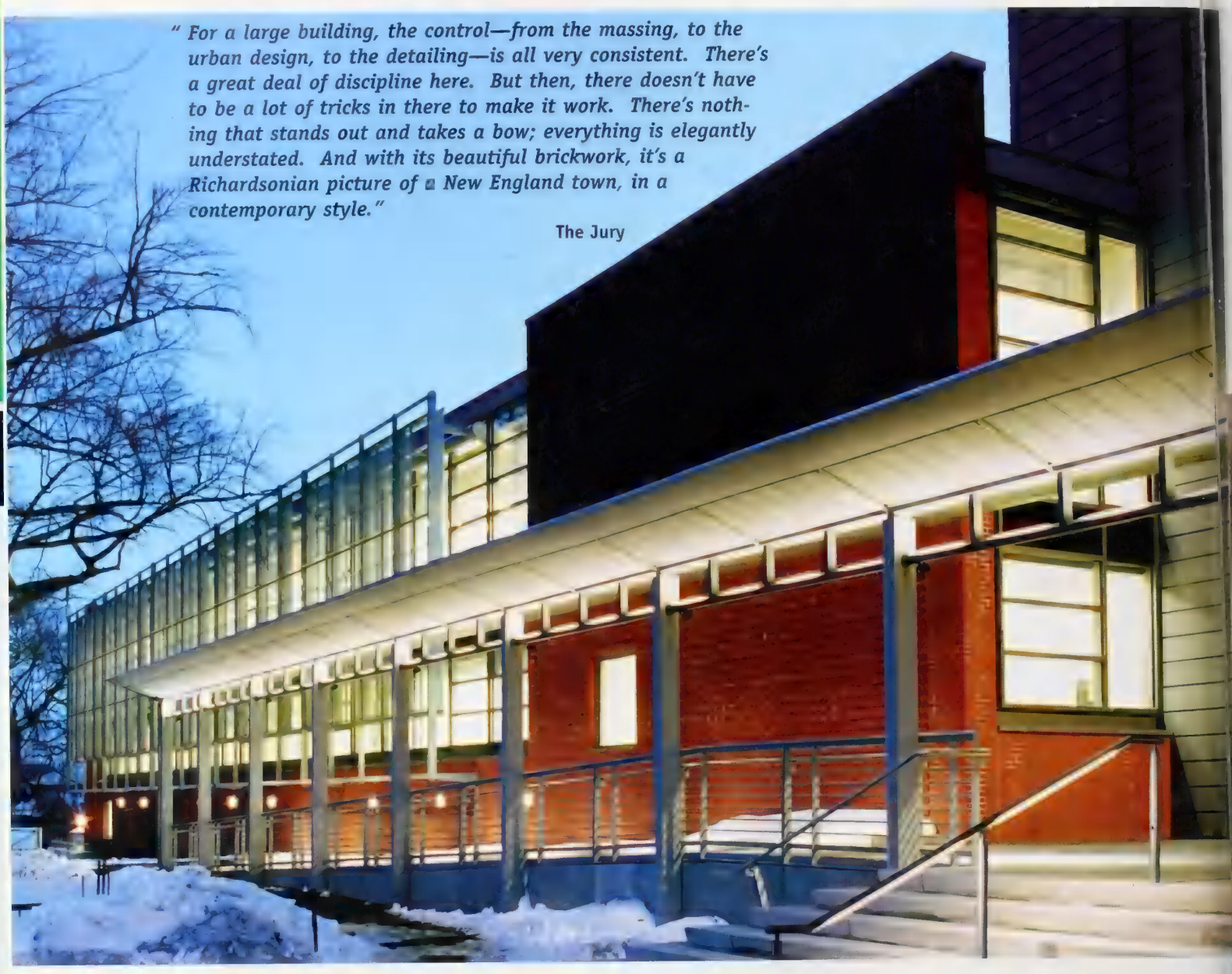


" When he was working on Covent Garden, Inigo Jones said, 'If it's a barn you want, it shall be the handsomest barn in all of England.' This has the same quality of simplicity to it. It's so straightforward, so very simple. And in a sea of pastiche, this building is totally unselfconscious. There is no imposed detail on it. It has a real sense of the character of brick, and a great traditional flavor to it as well."

The Jury

Smith College - Brown Fine Arts Center

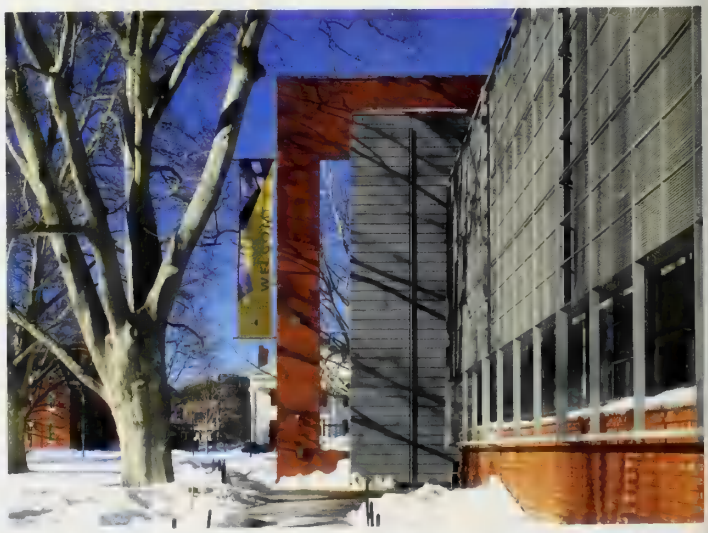
Northampton, MA



" For a large building, the control—from the massing, to the urban design, to the detailing—is all very consistent. There's a great deal of discipline here. But then, there doesn't have to be a lot of tricks in there to make it work. There's nothing that stands out and takes a bow; everything is elegantly understated. And with its beautiful brickwork, it's a Richardsonian picture of a New England town, in a contemporary style."

The Jury

Architect:	Polshek Partnership Architects New York, New York
Principals:	James S. Polshek, FAIA Susan T. Rodriguez, FAIA
Project Team:	Joseph Fleisher, FAIA Joanne Sliker, AIA Steven Peppas, AIA John Lowery, AIA
Photographer:	© Jeff Goldberg/ESTO Photographics, Inc. Mamaroneck, New York



Amarillo Travel Information Center

exas Department of Transportation
marillo, Texas

Architect: Richter Architects
Corpus Christi, Texas

Principals-in-Charge: David Richter, FAIA
Elizabeth Chu Richter, AIA

Design Team: David Richter, FAIA, Elizabeth Chu Richter, AIA,
Samuel D. Morris, AIA, Stephen Cox, AIA,
Sheldon Schroeder, Lonnie Gatlin, Manual Ramirez

Photographers: © Craig Blackmon
Dallas, Texas

© David Richter, FAIA (snow shot)
Corpus Christi, Texas



" The use of color is subtle yet fabulous. It's astounding. And it's not static; it has the liveliness of genuine stratification. The client must have been very enlightened to get to this point, because there had to be a lot of careful studies with the colors and the mocking up of brick panels. And then, beyond the brick itself, the massing, and the placing of the different elements, all work together. There's obviously a lot of thought that went into the whole program."

The Jury



Amarillo Travel Information Center
Amarillo, Texas

THE 2003 BRICK IN ARCHITECTURE AWARDS

The Brick Industry Association and *Architectural Record* are pleased to present the winners of the 2003 Brick in Architecture Awards. The judging was held Friday, 7 March, at the offices of *Architectural Record* in New York City. The four jurors were selected by the editorial staff of *Architectural Record*, and were as follows:

Michael R. Doyle, AIA
Acheson Doyle Partners
New York, New York

Harold Fredenburgh, AIA
Fredenburgh Wegierska-Mutin Architects
New York, New York

Alan Gordon, AIA
Pei Cobb Freed & Partners
New York, New York

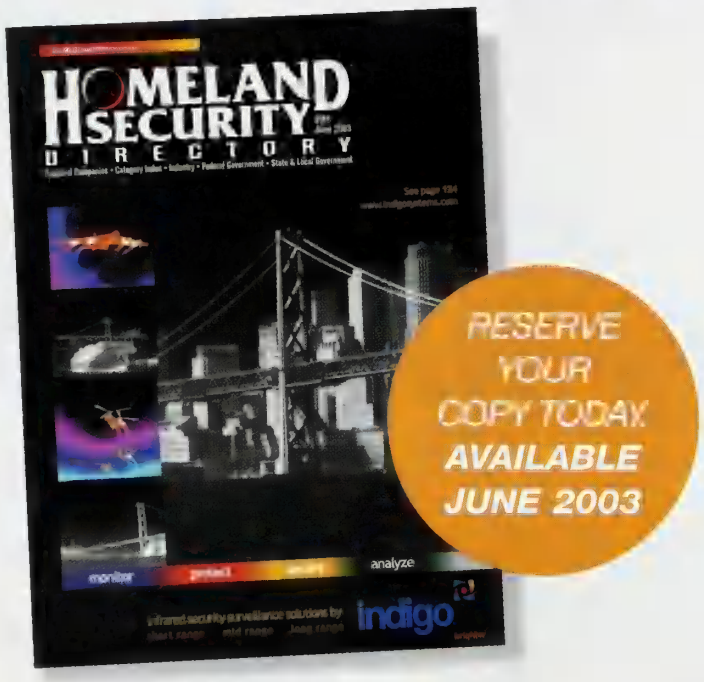
Nancy Lago, AIA
Equisetum
Pawling, New York

This year's program had 387 submissions, a record number. The large field made for intense competition, and the judging lasted all day, with the four jurors arguing passionately over the twelve finalists for over an hour. In the end, six projects were chosen as the best in field, with no ranking between them.

The Brick Industry Association would like to thank all those who entered this year's awards; it's encouraging to see that so many architects are producing so many great designs in brick. We'd also like to thank McGraw Hill and *Architectural Record* for being such gracious hosts during our stay in New York City.

Thanks again to all who entered this year's awards program. Our next awards program will be held in 2005. Look for the Call For Entries in late fall of 2004. Or, if you didn't receive one for this year's program and would like to for the next, feel free to e-mail John Grgurich with the request at grgurich@bia.org. Please include your firm's name, a good contact name, and address, phone, fax, and e-mail.

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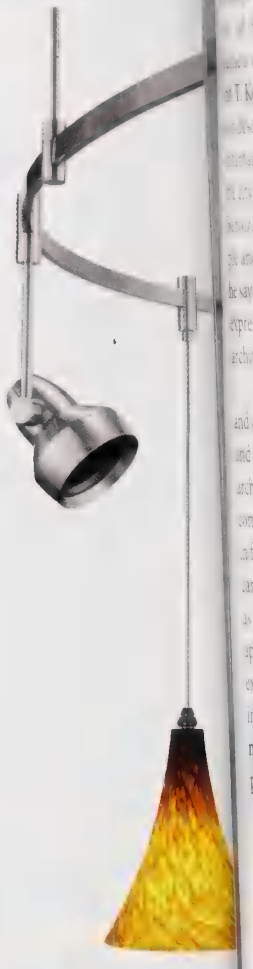
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TECH Lighting

Trains in Spain are complemented by illuminated planes at the renovated mixed-use **Salamanca Rail Station**

By **Leanne B. French**

European train travel carries a romantic allure, evoking adventures aboard the Orient Express or bullet trains barreling through the countryside. But many travelers today would rather bypass the romance of the rails for the efficiency and comfort of air or car travel. The reality of lagging business prompted the Spanish rail authority, RENFE, to team with developer Grupo Riofisa to create a new mystique for train excursions within the country. Operating under the name NECSA, the partnership is transforming train stations throughout Spain from mere points of arrival and departure into entertainment and retail hubs that are becoming destinations in their own right.

Recently, NECSA completed an award-winning, $8.7 million mixed-use expansion that envelops the existing train station in the university city of Salamanca. The Madrid office of RTKL teamed with New York City–based lighting consultant T. Kondos Associates to update and expand the nondescript 1950s station into "a viable retail and entertainment venue and a 'landmark' addition to the city," according to RTKL principal in charge Jorge Beroiz. "Our philosophy was to keep the design simple and bold, and marry tradition with modernity," he says. "We wanted to blend the formal institutional expression of a train station with the more playful architectural language of leisure."

During the day, the station's simple form and cladding of local limestone projects a formal air and links the new entrance to the city's historic architecture. At night, when entertainment venues come alive, a new, more modern expression emerges in free shapes, colors, and lighting. An angular metal canopy hovers over an exterior plaza that functions as an outdoor foyer. Three blue, wavelike ribbons appear to float beneath the canopy and pass from the exterior through a glass entry wall, drawing visitors inside toward shops, restaurants, and a cinema. A metal obelisk rises through a staircase as an iconic presence to one side of the entrance.

Lighting invigorates the architectural surfaces and accentuates the playful elements of the design. "The entrance is more of a straightforward arrival point during the day but is heightened as an

Leanne B. French is a freelance writer and a documentary filmmaker based in New York City. She is a frequent contributor to RECORD*'s special lighting section.*

Project: *Salamanca Rail Station, Salamanca, Spain*
Client: *NECSA*
Architect: *RTKL, Madrid—Jorge Berioz, principal in charge; Ricardo Cerezo, Emma Chambers, Juan Carlos Gomez, Mariana Tweedie, Bobby Wong, Ernie Zabarte, project team*
Lighting designer: *T. Kondos Associates—Theo Kondos, IALD, principal designer*



An enclosed stair tower at the revamped Salamanca Rail Station is illuminated by fluorescent fixtures wrapped with blue gels.



A new forecourt plaza wrapping the existing station sits beneath a "blanket" ceiling, which at night changes color from red to blue to yellow. Fitted with color changers, a steel tower becomes a glowing totem (below).

entertainment venue by lighting at night," says principal lighting designer Theo Kondos, who also illuminated the train station at Plaza de Armas in Seville and is working with RTKL on Principe Pio, a station under construction in Madrid.

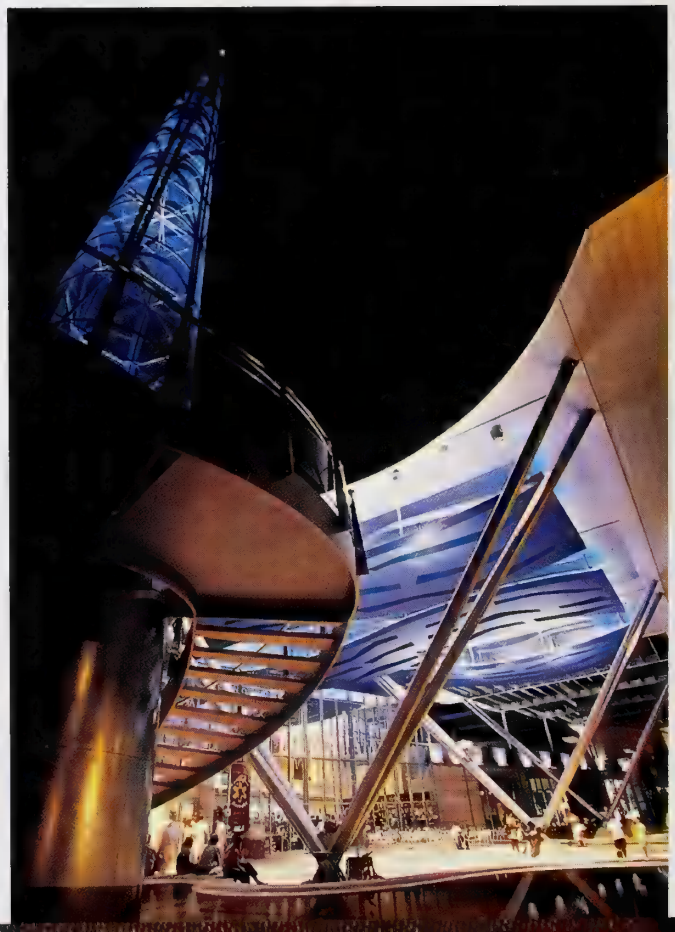
Kondos's approach was to light the exterior theatrically, selectively illuminating architectural elements. "If you light every surface of a building at night, nothing stands out," he says. "Lighting key elements of the station creates a mystique that draws people toward it and guides their circulation from venue to venue."

Blue neon lighting reinforces the nighttime effect of the floating wave shapes beneath the exterior canopy. "Against a light background in daylight, the blue ribbons are already vivid," Kondos explains. "At night, we mounted blue neon above the ribbons to accentuate their color and the feeling that they are sailing through space."

NEON AND METAL HALIDES FITTED WITH COLOR CHANGERS ENLIVEN RETAIL AND ENTERTAINMENT AREAS AT THE STATION.

The metal obelisk becomes a totem for the project when washed in multicolored light from within. "There are not many tall buildings in Salamanca," says Kondos, "so the obelisk tower makes a statement that we could emphasize by placing a color changer at its base."

For general illumination, Kondos employed graphic patterns of light to aid circulation as well as to create a comfort zone of safety for patrons. Throughout, he specified 150- and 250-watt metal-halide



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Metal-halide sources illuminate the outdoor plaza at night. The wave forms are backlit with neon. Additional neon and metal-halide fixtures rim the skylights (right).

sources, some fitted with blue color filters. "The warm color temperature allows you to see the faces of passersby, but in an inviting glow."

Inside the 322,580-square-foot station, uplights graze graphic elements along a glass wall that glows from indirect illumination. Above retail areas, round skylights are accentuated by blue neon mounted in a circular pattern. Metal-halide fixtures repeat the circular lighting pattern.

In the lower-level food court, Kondos bathed the circular dining area in warm light and repeated the wave-shaped ribbons carried through from the exterior. "We wrapped the food court with a frame of continuous fluorescent uplights and then created a 'chandelier' of ribbons, with pink and blue neon reflecting colored light on the ceiling," he explains. All lighting is connected to an energy-management system, while the types and wattages of lamps were kept to a minimum to simplify maintenance.

Kondos notes that the placement of light can turn even quiet architectural details into a heightened experience for travelers, such as a glass-enclosed tower of exit stairs at the Salamanca station he subtly illuminated with blue-gelled fluorescent fixtures. "Access stair towers are often lit with overpowering white fluorescents," he says. "But this staircase reads as part of the facade, and lighting helps it step into the forefront." ■



Sources

Interior metal-halide fixtures: *Lucent Lighting UK*

Exterior metal-halide floods: *Philips Lighting*

Color changers: *Irideon*

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The Fallon elevator lobby in the Woolworth Building emphasizes verticality with backlit wood-strip walls. The reception desk frames projected light evoking stained glass (opposite).

Neo-Gothic abstractions cast a glow of creative inspiration at the **Fallon** ad agency in New York City

By Leanne B. French

The recent relocation of the New York City office of the global advertising agency Fallon was an auspicious move. Not only had the agency doubled in size and outgrown its previous space, but through collaboration with MAP Architecture + Design it tailored an ample 28,000-square-foot home base within Cass Gilbert's landmark Woolworth Building on lower Broadway. The architectural firm and the client envisioned a progressive office design that would reflect Fallon's creative identity while making a subtle contextual connection to Gilbert's 1913 "cathedral of commerce."

"Rather than try to design something with a literal relationship to the building, we decided to take some of the principles of its neo-Gothic architecture and reinterpret them in an abstract, Modern way," explains MAP principal architect Morris Adjmi. "Principles that we felt were vital were verticality and light."



MAP's abstractions are introduced in a spacious elevator lobby framed with illuminated panels. Vertical white-washed maple struts set against expanses of acrylic are backlit by T8 fluorescent striplights mounted at the sides of the panels. Low, museumlike leather-upholstered benches set atop vibrant red carpeting bask in the glow. The combination of materials and backlighting creates a diffused effect in the 17-by-23-foot lobby that is carried through as a motif throughout the office. "The interior is really about the interplay of light and materials and the concealment of lighting within the architectural forms," says lighting designer Karen Goldstick.

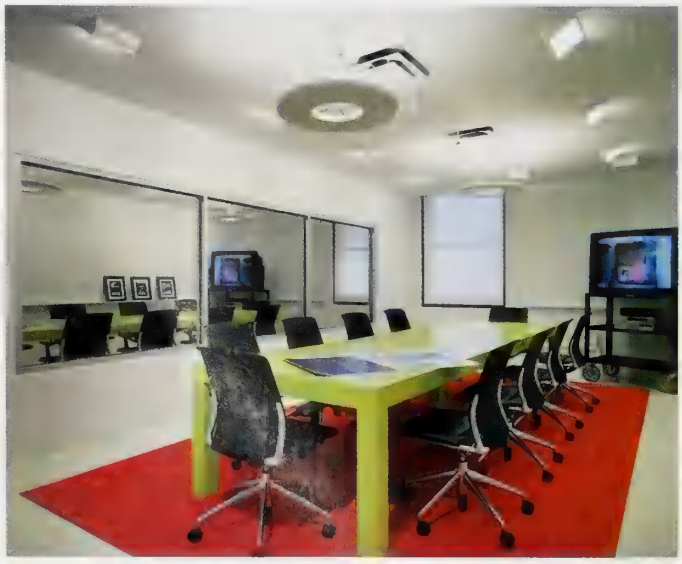
From the elevator lobby, visitors enter a reception area defined by a wall painted with squares of colored light, a contemporary interpretation of Gilbert's original stained-glass work in the building's lobby. To achieve the desired geometry and color pattern with lighting, the architects and lighting designer worked with foam-core mock-ups in the MAP offices. Their experimentation led to the use of spotlights and a theatrical rotating color wheel to project green, yellow, blue, and red boxes that

PHOTOGRAPHY: © PAUL WARCHOL

Project: *Fallon, New York City*
Architect: *MAP Architecture + Design—Morris Adjmi, Lisa Mahar, Wesley Wolfe, principal architects*
Lighting designer: *Goldstick Lighting Design—Karen Goldstick, principal lighting designer*
Engineer: *Goldman Copeland*
General contractor: *Lewis & Kennedy*



Custom illuminated display cases double as light boxes for viewing transparencies (above). A room for conducting focus groups features ring-shaped pendants that provide fluorescent uplighting (below).



appear, disappear, and dissolve into one another in a captivating display of color and illumination. A fabric scrim behind the white reception desk acts as a canvas to capture the colored lighting.

Painting with light at the entry is an artful prelude to the hallways that run perpendicular to the elevator lobby and reception area. The corridors were designed as gallery space for the agency's creative teams. "We wanted to provide a place where the creative employees could present their work in a space that would become a locus for their inspiration," says Adjmi.

CUSTOM LIGHT BOXES ARE SET WITHIN A SHIMMERING WHITE ENVELOPE TO SHOWCASE THE CREATIVE TEAM'S WORK.

To showcase the agency's projects and inspirations, the architects designed two 15-foot-long illuminated rosewood-and-glass display cases that hold inspiring objects or advertising samples, or function as oversize light boxes to view transparencies. Custom millwork was illuminated internally to highlight the display cases. Square downlights wash the stark white walls with light. Natural materials, such as the rosewood used for display tables and maple in the elevator lobby, bring warmth to the gallery-style ambience.

In the workspaces, the multicolored lighting motif is repeated

design with light

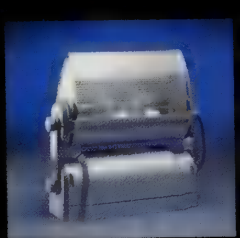


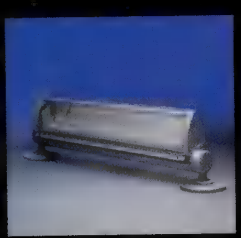
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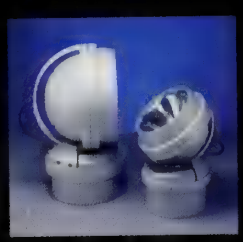
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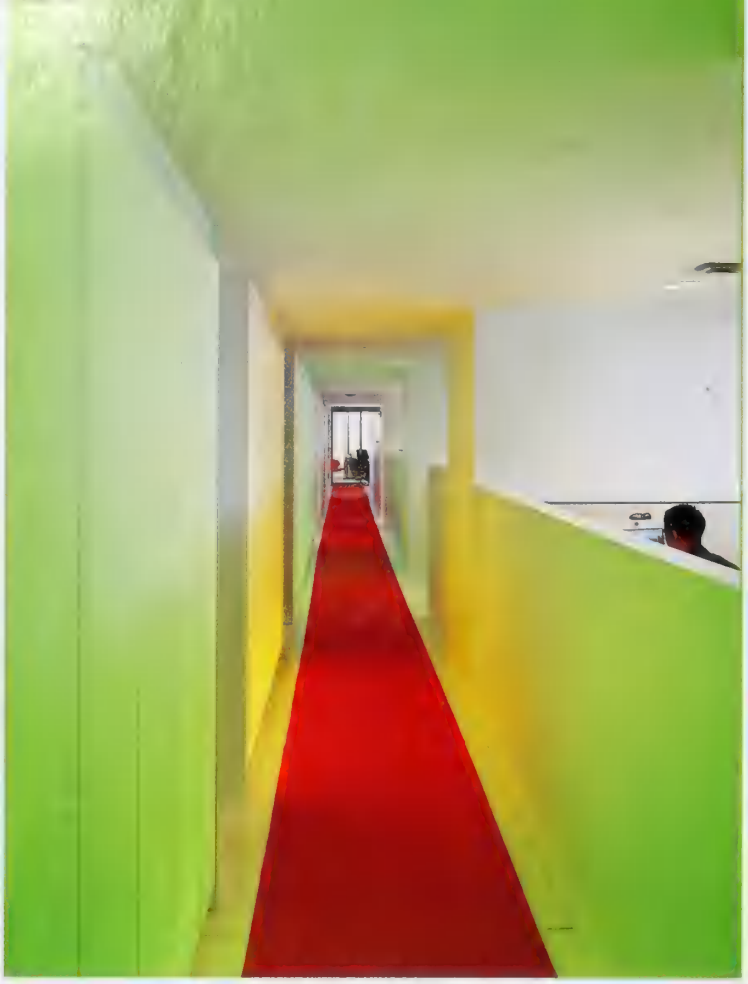


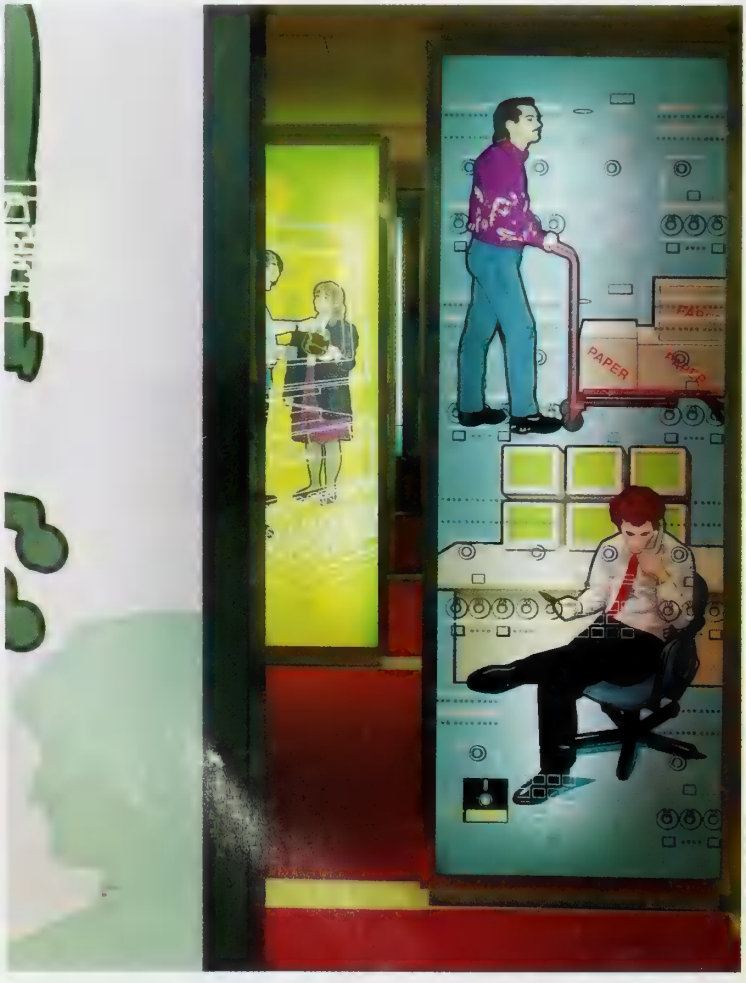
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Along corridors facing open workstations, fabric panels with zippered seams are backlit by T5 fluorescents fitted with color gels (left). Double-sided, illuminated display panels punctuate the path through the office. Showcasing the work of the ad agency, these "billboards" change frequently (below left).

along fabric-covered walls, a way of relating to the stained-glass imagery in the reception area and figuratively alluding to the idea of advertising as eye-catching projected images. Covered in stretched nylon scrims that are joined by zippers, the walls are backlit by T5 striplights sleeved with color gels. "We worked on many mock-ups in a prop warehouse to determine where the striplighting should go, and we ended up with a light fixture mounted at the bottom of the wall so that it washes upward," says Goldstick. A 4-inch-deep cavity was created behind the nylon to house the fixtures.

For the main workspaces, the architects turned what had been a maze of enclosed offices into an open office plan that accommodates 100 employees in two rows of 50 workstations each. At the agency's request, there are only six private offices and a nonhierarchical organization of space to encourage a collaborative working environment. To maximize

THE STAINED-GLASS MOTIF CONTINUES DOWN CORRIDORS, WHERE ILLUMINATED PANELS FRAME A SERPENTINE PATH.

the use of the space, the architects mapped out a variety of teaming areas, from conference rooms to "telephone booths," which were conceived as "little confessionals" for private work, Adjmi says.

Workspace lighting is subtly integrated into the open plan and is purposefully understated. "Light was such an important motif throughout the space, and it was so present in the entry, the gallery, and the common hallways," says Adjmi. "In the work area, we thought there should be the presence of light without prominent light fixtures."

Goldstick struck an effective balance, lighting the main workspaces with pendant-mounted T5 uplights for general illumination and suitable light levels for heavy computer use. Lighting in corridors reverts back to the use of thematic colors. Gelled fluorescent fixtures wash corridor walls in green, yellow, blue, and red. A long corridor connecting all public spaces is another showcase for Fallon's work. Six illuminated display panels are staggered perpendicularly along the corridor walls, prompting visitors to navigate through a portfolio of agency projects that changes weekly. Throughout the new office, artful lighting is a persuasive method of conveying Fallon's message and a constant metaphor for the agency's creative vision. ■

Sources

Recessed fluorescents: *Lightolier; Linear Lighting*

Fluorescent pendants, uplights: *Peerless; SPI*

Striplights: *Legion*

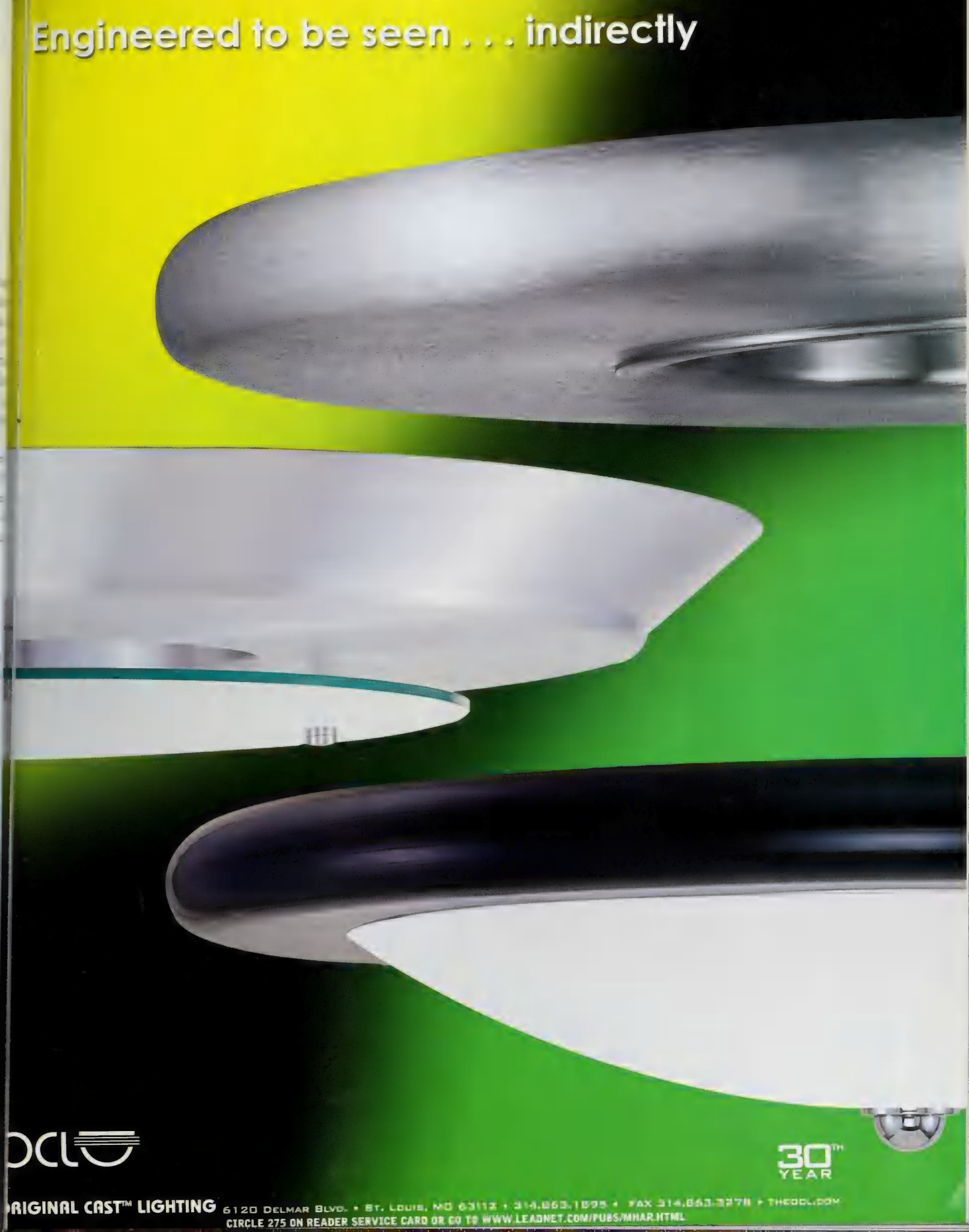
Wall washers: *Elliptipar; Insight*

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Reception light panels: *NY Display*

Pinspot and color wheels: *SLD*

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T8 is still the fluorescent lamp of choice

T5 FLUORESCENT HAS SEVERAL DISTINCT ADVANTAGES OVER T8, BUT HIGH COST AND LIMITED AVAILABILITY HAS KEPT IT FROM GAINING THE MARKET SHARE MANY EXPERTS THOUGHT IT WOULD

By Lindsay Audin

When T5 linear fluorescent lamps made their way from European to U.S. shores in 1998, many thought that they would soon displace the T8 as the industry's most popular fluorescent lamp. T5's small diameter and high light output make it very attractive, but T8 is still king. T5 components continue to cost as much as three times those of the T8, and T5 fixtures and ballasts are generally more expensive. The availability of T5 replacement parts is limited to major metropolitan areas, while T8 lamps and ballasts are now found in most retail hardware stores. And improvements in T8 lamp technology have helped it to keep its competitive edge.

A T5 fluorescent primer

T5 lamps are ⅝ inch in diameter, ⅛ inch smaller than T8s. T12 lamps are 1½ inches in diameter. That means the T5's light output is concentrated over a smaller surface area, making it quite a bit brighter than the larger lamps, and easier to focus, as well. T5 fixtures can be made to be quite small, and some of the best optical systems ever offered for fluorescent have been designed for them [see "Inside the New Compact, Indirect Luminaires," RECORD, May 2002, page 331]. In addition, even brighter, high-output (HO) lamps are available as part of the T5 family, which means that in some situations designers can design with fewer fixtures—there are no HO T8s. T5 lamps boast 95 percent lumen retention over average lamp life. They put out more light at higher temperatures than T8s, an advantage when they are used in enclosed fixtures, where the T8s' intolerance to heat can make their light output drop somewhat.

T5s are available in lengths of 22, 34, 46, and 58 inches, with corresponding wattages of 14, 21, 28, and 35; for HO, the power figures go up dramatically, to 24, 39, 54, and 80 watts. When combined with electronic ballasts, efficacies close to 100 lumens per watt are common. T5 HO lamps are so bright that fluorescent high-bay fixtures have begun hitting the market as alternatives to high-intensity discharge (HID). Because T5 lamps are so bright—a 46-inch, 54-watt T5 HO lamp emits nearly double the light of a 4-foot T8—lighting designers must be careful to control their light output by distributing it with diffusers and lenses or using it in indirect distributions.

The T5's shorter lengths and unique pin configuration mean that they cannot be fitted into T8 or T12 fixtures. But, like T8s, T5 lamps are also available in a wide range of CRIs and color temperatures. The T5 lamp has an average 16,000-hour life, 20 percent less than for the T8s or T12s, but the use of programmed start ballasts, which are easier on the lamps during start-up than standard ballasts, can increase lamp life to 20,000 hours. Several types of dimming ballasts are now available for T5.

Lindsay Audin is president of Energywiz, Inc. (www.energywiz.com), an energy and technology consulting firm in Croton, New York.



The Retrolux system adapts nondimming T8 and T12 fixtures for use with T5 lamps and allows them to be dimmed using wireless controls.

Like high-quality T8 ballasts, they feature low total harmonic distortion, high power factor, and low-noise characteristics.

Last year, the Lighting Research Center published a complete overview of fluorescent lighting developments on their Web site. You can find it at www.lrc.rpi.edu/nlpip/ by clicking on "Technologies."

T8 technology also improves

To their credit, T8 lamp and ballast manufacturers haven't allowed their price advantage over T5 to lull them into becoming technically complacent. Here are some of the new developments:

- Reduced-wattage 28- and 30-watt lamps are now available in lieu of the original 32 watters, with the same 2,900-lumen output, though they cost slightly more. Because some of the earliest T8 installations are probably ready for relamping now, this is an excellent way to shave a few extra kilowatts off the electric bill in large facilities.
- Ballasts with factors up to 1.2 are available. They can overdrive the lamps, providing more light from the same fixture or allowing fewer fixtures in a new installation.
- Programmed start ballasts can stretch the usual 20,000-hour lamp life to 30,000 hours. If program-start ballasts are not an option because of cost, long-life T8s, running on standard ballasts, can boost average lamp life by 20 percent.
- Higher grade T8s with better color rendition and lumen retention are now available, and the number of T8 dimming-ballast and wiring choices has increased considerably.

With so many options and lower cost, lighting designers may need to look again at their T5 designs to see if they're really better when weighed against overall cost.

New T5 product options

Because the T5 technology itself is so innovative, and it is only a few years old, there hasn't been too much time for improvements. There are some new developments, however, that have appeared recently.

One of the most interesting of these is the Retrolux system, which can be used to adapt standard, nondimming T8 and T12 fixtures for use with T5 lamps and will allow them to be dimmed using wireless controllers. PowerWeb Technologies is working with Westinghouse and Siemens to bring this product package to the U.S. It consists of a "holster" containing a dimmable ballast and wireless communicator that slips onto standard T8 or T12 lampholders. It takes a 46-inch T5 or T5 HO lamp. For additional information about this system, go to www.westinghouse.omni-link.net/news.shtml.

T8 LAMP AND BALLAST MANUFACTURERS HAVEN'T ALLOWED THEIR PRICE ADVANTAGE OVER T5 TO LULL THEM INTO TECHNICAL COMPLACENCY.

The Retrolux product uses Digital Addressable Lighting Interface (DALI)–compatible dimming ballasts, which can be controlled individually with software designed to work with existing building management systems (BMS). Under BMS control, small radio transmitters, which work very much like cell-phone repeaters, are scattered around a building. These communicate with the ballasts. The system has been used in Europe for several years and has quite a track record there. To learn more about it, you can consult PowerWeb Technologies' Web site at www.2powerweb.com.

Taking a dim view

Designers who are unfamiliar with T5 lamps should be aware that the lamps take longer to warm up than other types and, therefore, longer reach full light output. Where lights routinely remain on without interruption for hours at a time, this is usually not a problem. But where fixtures are cycled on and off each time a person enters and leaves a room, as they are when occupancy sensors are used, the long warm-up time can be inconvenient. It gives users the initial impression that there is something wrong with the lighting, because the rooms seem insufficiently illuminated. In my own office, the light output of the T5-fitted fixtures was still below 45 percent after 30 seconds of operation. But turning on more lights to make up the difference would have defeated the energy-conservation value of the occupancy sensors I had installed there. This problem is exacerbated in spaces that are kept cold, such as warehouses, where T5s have been installed in lieu of high-bay HID. Users may get used to it, but designers should tell their clients what to expect. When clients are unfamiliar with T5, it is always a good idea to do a mock-up with fixtures and controls to ensure that they—and you—are comfortable with the results before settling on a design.

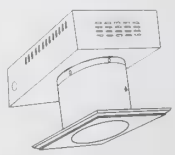
Back at the bottom line

Whether you're putting T5s or T8s on your project, be sure to sharpen your pencil. There are so many viable design options that specifying an optimal one can be a challenge—nothing like the days when 99.9 percent of all buildings used 40-watt, cool-white T12 lamps. Choose and specify T5 components with care, and verify that replacements, especially ballasts, are readily available near the installation. The best way to know what your options are is to stay abreast of new developments in these advancing lighting technologies. ■

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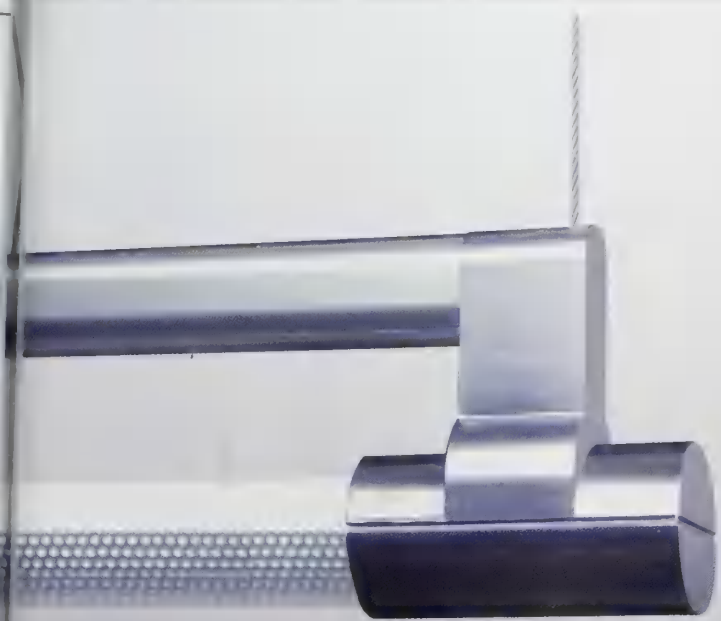
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Lighting Briefs



▲ View finders

Architectural Area Lighting has released two new products to follow the company's "Design with Light" floodlighting series. Pivot (above) uses energy-efficient fluorescent lamps and electronic ballasts in a compact luminaire design to wash a wall, highlight signage, or indirectly illuminate an indoor or outdoor space. Pivot is available in four individual lengths or can be used in continuous rows. The Cypher's (right) reflector/refractor optics provide smooth, even illumination for floodlighting and indirect-lighting applications. The design allows the fixture to be mounted in any orientation to address various lighting tasks in interior and exterior applications. 714/994-2700. Architectural Area Lighting, La Mirada, Calif. **CIRCLE 200**



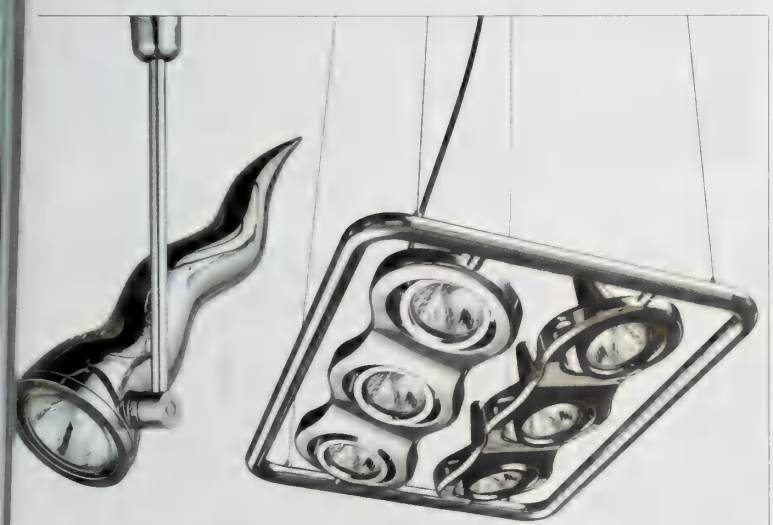
◄ Low-voltage tubular glass pendant

The Sirius Optic Pendant with Clear Glass Tubular Diffuser—or SL03100, as it is known around the factory—is just one of the new lighting products in the Sirius low-voltage halogen lighting system. The pendant's adjustable clear-glass cylinder features an internal optic reflector and may be raised or lowered to the desired height. The reflector takes on a chrome finish when not energized and an iridescent blue tone when lighted. Eighteen optical coatings on a crystal reflector enhance the fixture's illumination capabilities, and an 86 percent reflectance casts a crisply defined beam with sharp edges and no lamp striations. Rated for use with 50-watt T4 xelogen lamps (clear or frosted) with vertical filaments. 800/728-0312. Con-Tech Lighting, Northbrook, Ill. **CIRCLE 201**



► Floating table lamp

The Annoncé lighting line, designed by Sherry Williamson, AIA, will be introduced by Baldinger at Lightfair this month. Williamson, head of Sherry Williamson Design, of Mill Valley, California, specializes in custom lighting and furniture, overseeing the fabrication of her designs by skilled artisans. The open, sculptural table lamp comes in three sizes with a linen shade. 718/204-5700. Baldinger Architectural Lighting, Astoria, N.Y. **CIRCLE 202**



▲ Architectural opus

The Opus Collection of low-voltage lighting products was specifically created by Prima Lighting to fill the high-end niche market. The Flame spotlight (top left) accepts louvers, filters, and diffusers. It includes a 6" suspension cord as standard but is also available with 12", 18", 30", or 36" suspension rods. The Opus Multi spotlight arrays (top right) are stylish enough to be used as chandeliers. Designers can choose the configuration that suits their needs and direct the light precisely where it is wanted. The fixture can be installed horizontally or vertically in four, six, or nine light versions. Both Flame and Opus Multi are available in a chrome or silver finish. 866/885-4915. Prima Lighting, La Mirada, Calif. **CIRCLE 203**

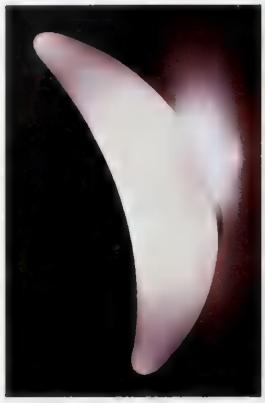
▼ Translucent light boxes

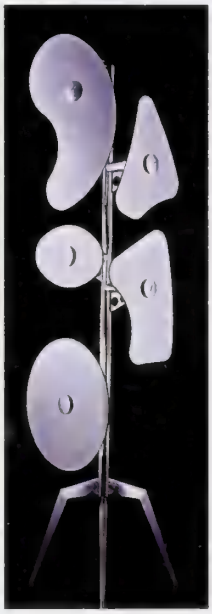
Resolute's Box wall lights feature Imago, KnollTextiles' resin/textile material. Imago is formed by a patented process in which a textile is heat-encapsulated between two sheets of engineering resin (PETG). The sconce features clear anodized aluminum hardware in six Imago options and two lamp styles: Box 1 and Box 2. Box 1 has a wider shade, while Box 2 is ADA-compliant and exposes the bulb through a circular cutout. 206/343-9323. Resolute, Seattle. **CIRCLE 204**



Lighting Briefs

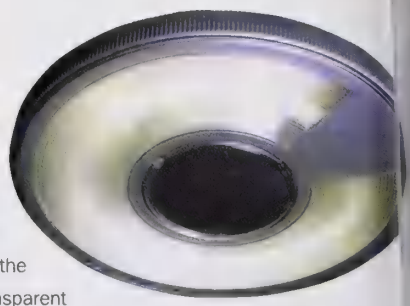
► Out of this world luminaires



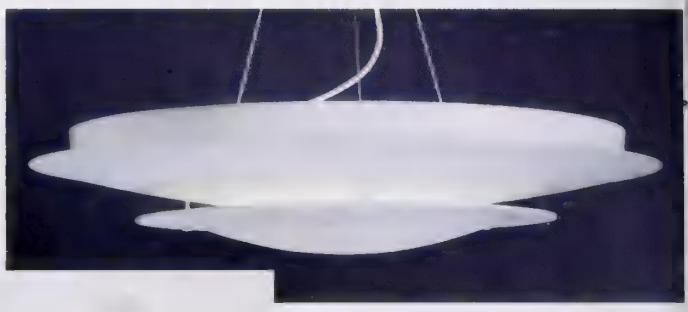


Last year, North American Light Spectrum (NALS) began to distribute fixtures from Foscarini of Italy to the U.S. market. This year, NALS expands upon its offerings with the 10th Anniversary Orbital Floor Light. This limited-edition floor lamp, with an updated design by Italian architect Furruccio Laviani, is composed of five frosted-matte-silver translucent glass plates in biomorphic shapes suspended from short metal arms. Also new from NARS is the Foscarini of Italy Maui collection of crescent-shaped ceiling and wall luminaires. 800/713-2182. NALS, Danbury, Conn. **CIRCLE 205**

► Miniature sun



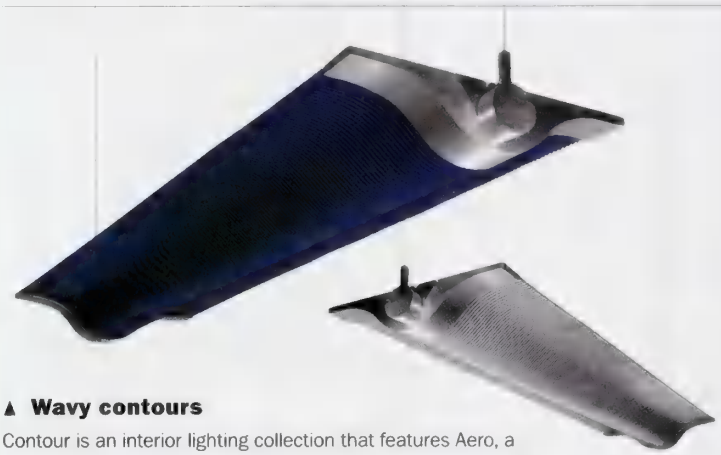
LightDisc, designed by Alberto Meda and Paolo Rizzatto, features a limited overhang that makes it appear to be built-in. The fixture's optical system, integrated parabolic reflector, and diffuser lens with prismatized section allow it to fully exploit the potential of the new circular fluorescent bulb. The transparent lid houses a PVC disk that hides the screws that fasten the lens to the body. The lamp is airtight, can be used outdoors, and is offered in different versions and measurements. 212/989-6265. Luceplan USA, New York City. **CIRCLE 206**



▲ Linear system alternative



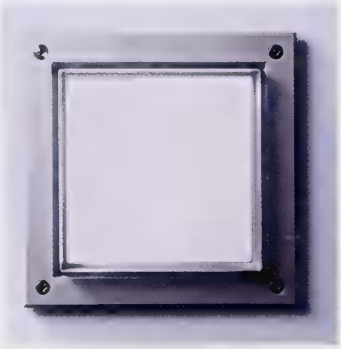
The Inde-Pendants family of individual pendant-mounted lighting fixtures offer the same performance and efficiency as many typical linear fixtures, according to the manufacturer. The new family includes four product styles, in two different housing sizes, each with two distribution choices and a variety of design and performance options. The fixtures are designed as an alternative to linear systems in offices, lobbies, libraries, classrooms, and other public spaces. 781/294-0100. Litecontrol, Hanson, Mass. **CIRCLE 208**



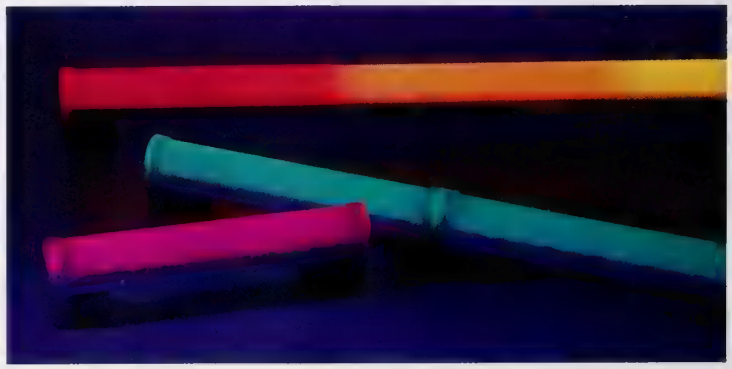
▲ Wavy contours

Contour is an interior lighting collection that features Aero, a tightly corrugated aluminum material from Forms+Surfaces. The system comprises a standardized group of end castings, fittings, and accessories and is offered in an anodized finish in matte silver or a range of colors. Linear 4' and 8' elements (combined using the system's array of pattern connectors) and a wall sconce are available. 800/451-0410. Forms+Surfaces, Carpinteria, Calif. **CIRCLE 207**

► Well-lit block



Bega's new glass-block recessed wall luminaire is designed to illuminate indoor or outdoor areas, stairways, or halls where guidance and security lighting are required. The fixture has a die-cast aluminum faceplate with satin-matte crystal glass and flush stainless-steel fasteners. Light is emitted laterally from the projecting glass. It measures 3⅛" x 3⅛" x 3⅛". 805/576-5133. BEGA/US; Carpinteria, Calif. **CIRCLE 209**



▲ Colorful entertainment

iColor Accent marries Color Kinetics' digital control expertise with the latest LED advancements in a low-voltage, indoor/outdoor direct-view linear light. iColor Accent is available in multiple lengths that are controlled in 1' intervals. It is appropriate for illuminating architectural highlights, such as building outlines, and other commercial, retail, or residential applications, with intricate shows of color. 888/FULL-RGB. Color Kinetics, Boston. **CIRCLE 210**

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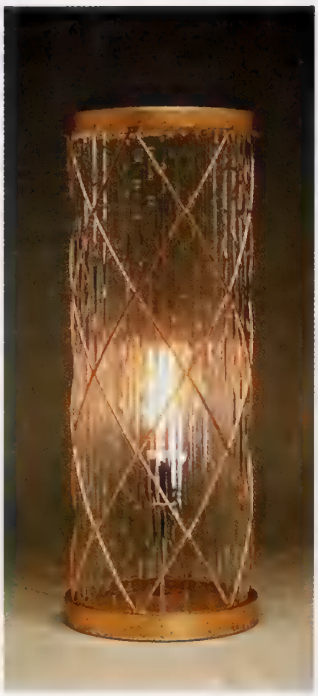


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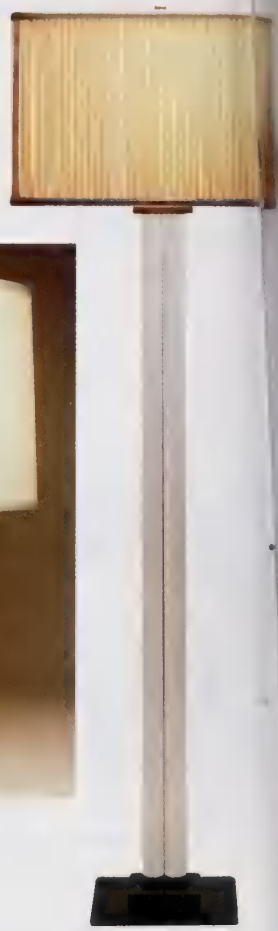
► Handcrafted hallmarks

The various offerings in Boyd Lighting's new residential division, the Kentfield Collection, are connected by several hallmarks: luxurious materials, including handblown Venetian glass, cold-cast bronze, and gold leaf; craftsmanship such as hand-machining and hand-polished parts; imprinted saddle leather bases with the name of the designer and the year issued; and custom-designed lamp shades executed in silks and linens. Kentfield includes a roster of renowned designers such as Clodagh, Fisher Weismer, Thad Hayes, and Todd Rugee. Shown on this page left to right: Cascade Luminaire crystal chandelier; Montgolfier table light suspended between gold-leaf disks; Primitive cold-cast bronze table lamps; and the Wainwright floor lamp. 866/251-7777. The Kentfield Collection, a division of Boyd Lighting, San Francisco. **CIRCLE 211**









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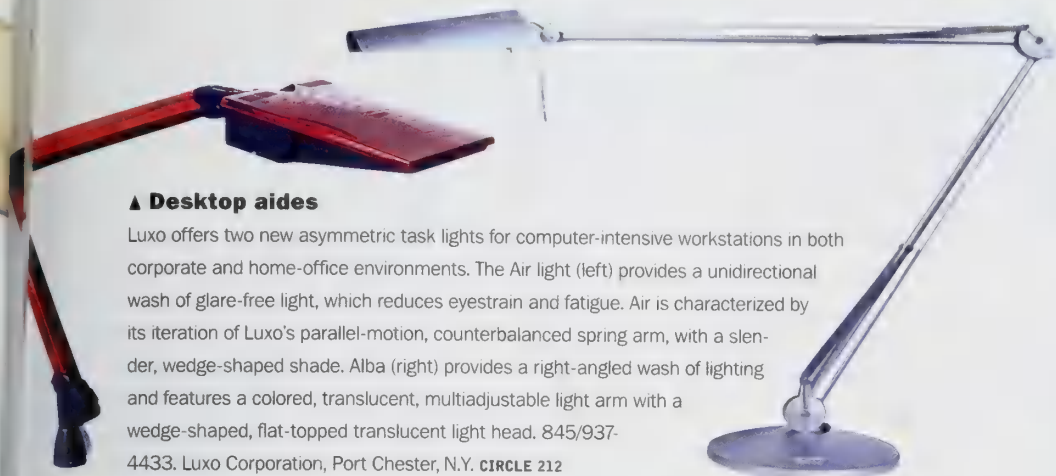
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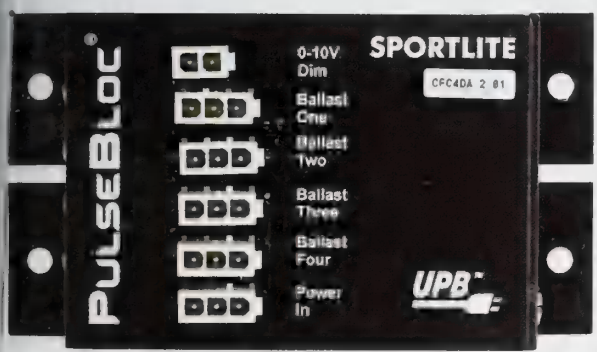
▲ Desktop aides

Luxo offers two new asymmetric task lights for computer-intensive workstations in both corporate and home-office environments. The Air light (left) provides a unidirectional wash of glare-free light, which reduces eyestrain and fatigue. Air is characterized by its iteration of Luxo's parallel-motion, counterbalanced spring arm, with a slender, wedge-shaped shade. Alba (right) provides a right-angled wash of lighting and features a colored, translucent, multiadjustable light arm with a wedge-shaped, flat-topped translucent light head. 845/937-4433. Luxo Corporation, Port Chester, N.Y. **CIRCLE 212**

▼ T8s exceed federal regulations

All GE 2', 3', and 4' T8 linear fluorescent lamps are now Ecolux products. Ecolux lamps exceed the stringent Toxic Characteristic Leaching Procedure (TCLP) standards set by the EPA. GE claims to offer the most comprehensive selection of TCLP-compliant linear fluorescent lamps in the industry. Lamps that pass the TCLP testing requirement are considered nonhazardous waste, according to federal regulations. However, specifiers should check with their local EPA office, which may have stricter disposal guidelines. 800/GE-LIGHT. GE Lighting, Cleveland. **CIRCLE 213**



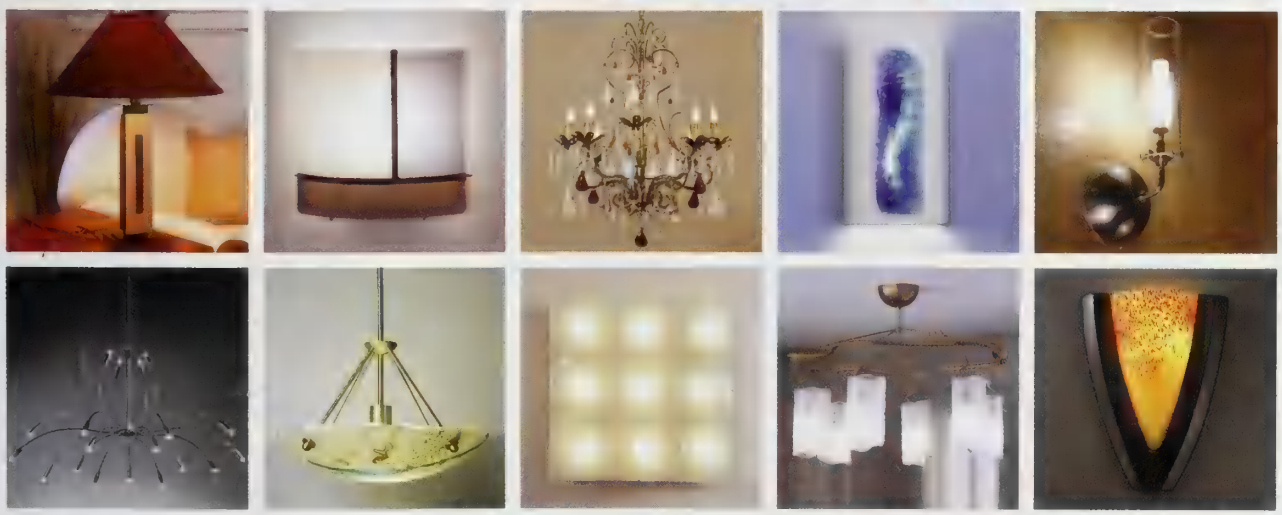


◄ Digital pulse technology

The Advanced Lighting System with PulseBloc offers multilevel lighting control without hard-wiring to fixtures. The system has only three components: the Sportlite fixture, the PulseBloc receiver (located in each fixture and preinstalled), and the PulseBox wall controller. The communication between the wall controller and the light fixtures is accomplished using a very high signal of pulses in a low-frequency range. 632/930-0074. Sportlite, Glendale, Ariz. **CIRCLE 214**

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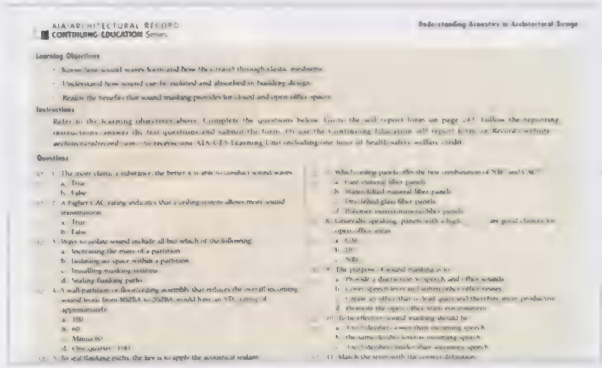
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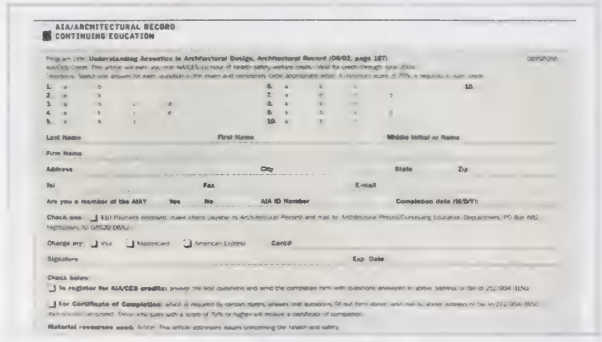


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New Products

Landscape products can bring the exterior areas of a building down to human scale, provide secure public spaces, and help protect the natural environment. To learn about the newest resources available, **landscape architects, urban planners, and other design professionals** will gather at the American Society of Landscape Architects' 2003 Meeting & Expo, held 10/30–11/3 in New Orleans. *Rita F. Catinella*

Colorful concrete site furnishings

Kornegay Design, a source for cast-concrete site amenities, has introduced a new concrete bench and two new styles of landscape containers. The firm was formed after designer Larry Kornegay learned about the poor selection of planters on the market appropriate for a contemporary residence.

"I design with the intention of providing a key transition between structure and surrounding landscape," explains Kornegay. "The human scale of planters and benches presents opportunities for individual interaction with man-made objects that I hope will enhance public awareness of the multitude of visual delights to be discovered in urban and natural surroundings."

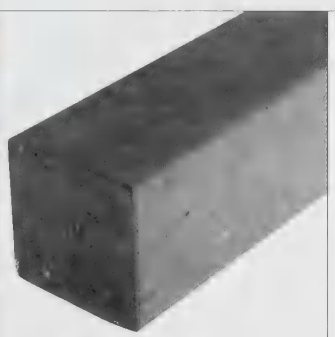
For his newest bench design, Kornegay combined a base made of multicolored cast-concrete disks and a wood-textured concrete plank. The disks can be colored according to site requirements.

The Mex Bold Series of landscape containers replicates the natural ridges of a melon or cactus, and the Square Series showcases the potential for smooth surfaces in concrete. These two series join three other planters already in the collection: the spherical Nutshell, featuring an outer surface texture reminiscent of walnut shells; the crisply geometric Faceted Series; and the softer, flowing Ribbed Series. All products are available in a wide-spectrum palette of integral pigments as well as natural concrete color. 480/967-6787. Kornegay Design, Tempe, Ariz. CIRCLE 215



The Happy Trail Bench and Mex Bold Series showcase the potential of colored concrete in landscapes.





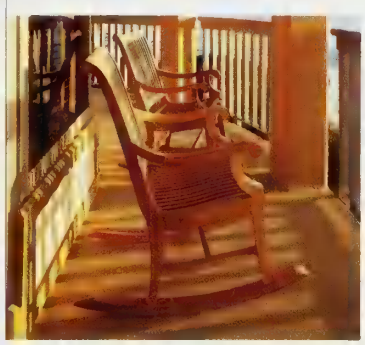
Planters are one of the applications of the recycled product.

Parking curbs that may have been your old Buick

In response to a demand for alternative composite materials, Universal Forest Products has expanded its product mix to include XPotential Products, a line of recycled multipurpose posts, landscape ties, and parking curbs made from recycled automobiles. Based in Canada, XPotential Products manufactures plastic components with 100 percent recycled materials, including the nonmetallic by-product of recycled automobiles, such as fabric, carpet, paint, foam, and post-consumer/industrial plastics. With a life expectancy of 75–100 years, according to the manufacturer, the products are designed to outlast and outperform concrete, reducing maintenance and replacement costs found with traditional concrete or wood alternatives. The composite has a shock-absorbing capability that makes it less prone to chipping and cracking, and it will not twist, splinter, rot, or decay due to weather, pests, road salt, or chemicals. However, the flexural strength of the composite is less than that of wood, and it should not be substituted for wood products without regard to engineering considerations and testing for the intended application. 800/598-9663. Universal Forest Products, Grand Rapids. CIRCLE 216

Teak rocking chair

The Avignon rocker has detailing worthy of formal dining furniture, yet its Grade A quality teak construction makes it at home outdoors. The rocker features a dished seat, concave back, and scrolled arms. The front of the rocker's seat meets the back of the knee in a smooth curve that won't cut off circulation. A new table also joins the Avignon Collection. 800/981-9888. Smith & Hawken, Novato, Calif. CIRCLE 217





▲ You may approach the bench

The Leesburg Series is the latest collection from Keystone Ridge Designs. The Leesburg bench is safeguarded with the company's trademark Keyshield powder coating that is rust-, abuse-, and sun-fade-resistant. The collection also includes a litter receptacle and planter. Keystone offers an expansive collection of landscape furnishings, including food-court seating, ash urns, planter stands, tables, chairs, bike racks, bollards, and wayfinding signage. 800/284-8208. Keystone Ridge Designs, Butler, Pa. **CIRCLE 218**



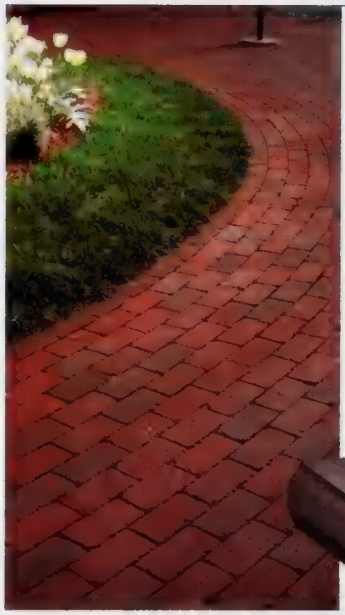
▲ Lunch break oasis

The Sonoma Bench Collection, designed by Brian Kane, features a wood seat with a metal back and optional arms. The gently curved, perfora metal back lets the natura setting show through. The benches are at home in ou door corporate, educationa and retail settings, as well as interior spaces. Designe and built to meet the rigors of urban spaces, Sonoma introduces an optional table arm to accommodate a coffee cup, newspaper, or laptop. 800/521-2546. Landscape Forms, Kalamazoo, Mich. **CIRCLE 219**

► Composite deck and railing system

ChoiceDek is a patented composite decking material manufactured with recycled wood fiber and recycled polyethylene that provides a water-resistant product practical for deck, railing, dock, and marine applications. ChoiceDek saws, drills, and finishes like wood and will fade to a gray shade over time. Hidden channels in the railing can be used for lighting wire, and support rails on top and bottom are notched for easy assembly and to hide fasteners. 866/233-2766. Weyerhaeuser, Federal Way, Wash. **CIRCLE 220**





◄ Hardscape foundations

A key element to the "hardscape" of many projects is the use of brick pavers in an increasing array of colors and styles. Two new offerings are the Rumbled Full Range clay paver (left) from Pine Hall Brick, and the Capella natural clay wall cap (below), a decorative enhancement for walls of brick, concrete brick or block, and stucco, that is available from Pacific Clay Brick Products. 703/620-0010. Brick Industry Association, Reston, Va. **CIRCLE 221**





▲ Memorable lounger

New to the Henry Hall Designs Flexy Collection is the Flexy Batyline Mesh Curve Chaise. The Batyline cover is a French-made material consisting of polyester fiber covered by a coating of PVC that is resistant to rot, mildew, and UV radiation. Sagging is minimal due to a maximum stretch of 3 percent and a "memory" that allows it to slowly stretch back to its original wave shape. The stainless-steel frame does not contain any movable parts, as the chaise is set in a fixed position. 800/767-7738. Henry Hall Designs, San Francisco. **CIRCLE 222**

▼ Seaside dining set

Weatherend Furniture, known for its signature curves and symmetrical slats, has added several new pieces to its outdoor furniture collection. The Seal Cove dining set includes an 80"-long dining table to comfortably accommodate six. The Seal Cove dining chair features a slatted back detail and curved crest rail design and is also available in a slatless version. Each piece in the set is constructed from mahogany using full mortise and tenon joinery bonded with a durable marine grade epoxy. 800/456-6483. Weatherend Estate Furniture, Rockland, Maine. **CIRCLE 223**



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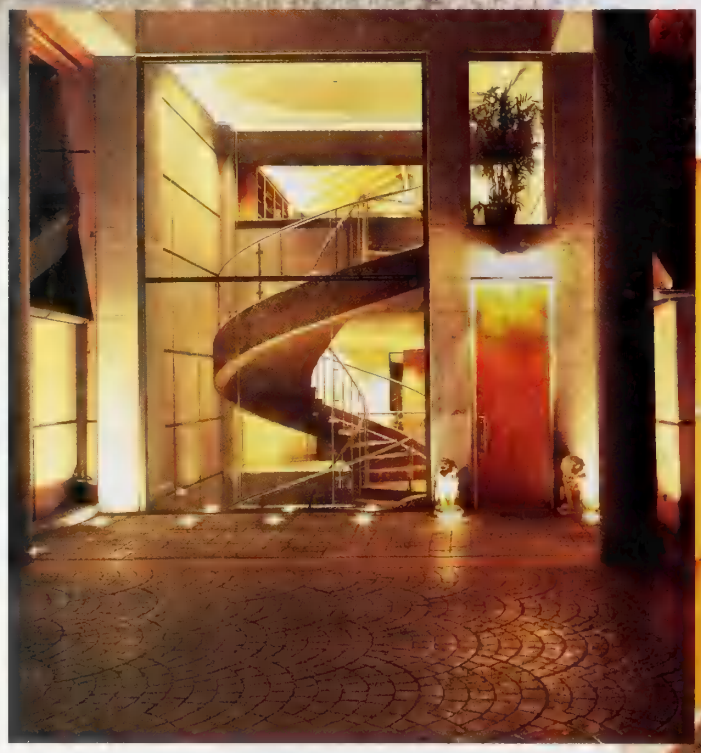
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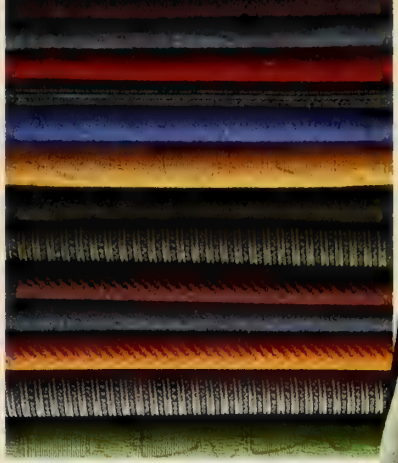
◄ Safety laminate for the lift

ChromaSurface surfacing material allows specifiers to use laminated safety glass for the interior walls of elevator cabs. Using the Cesar Color process, ChromaSurface is made by laminating a printed interlayer material between two pieces of safety glass to create a sandwich. Cesar Color's printing capability can make the film in any color, incorporate a company logo, or impersonate virtually any natural or man-made material. 800/275-7272. Cesar Color, Phoenix. CIRCLE 224

▼ The Wright accessories are everything

The Frank Lloyd Wright Preservation Trust catalog features an extensive collection of accessories inspired by Wright's timeless designs, as well as a wide selection of books on Wright. Inspired by Wright's Francis Little House in Wayzata, Minnesota (1912, demolished in 1972), the cast-bronze-resin tea-light holder shown here holds five tea lights and is accented with an oak detail from the Francis Little living room. 877/8484-3559. Frank Lloyd Wright Preservation Trust, Oak Park, Ill. CIRCLE 225





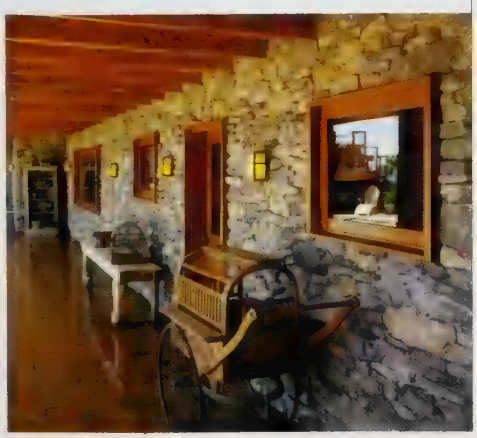


Product of the Month
Environmental Impact Collection

Two years in the making, the Environmental Impact Collection of colorful seating and panel fabrics offers nine products that exceed Association of Contact Textiles standards for quality and performance. The sustainable manufacturing processes used in the production of the textiles reduce energy use, greenhouse gas emissions, waste sent to landfills, process-water consumption, and consumption of petroleum. No fabric in the collection requires the chemical backing typically used to adhere fabric to the final seating or panel systems. This eliminates a key hurdle in making contract textiles recyclable in the future—a central goal of the fabric's creators at The Designtex Group. The LEED specification program will soon provide credits for projects that include sustainable textiles. 800/333-9939. Steelcase, Grand Rapids, Mich. CIRCLE 226

► Better than the real thing

Eldorado Stone's architectural stone veneer is composed of Portland Cement, lightweight aggregates, and oxide dyes used to create accent colors. The stone is about half the price of natural stone and is approximately one third the weight. To create an authentic look, the stone veneer is cast from advanced custom molds made from thousands of hand-selected natural stones chosen by artisans at Eldorado Stone. Shown here is Teton Shadow Rock applied with a dry-stack grout technique. 760/736-3232. Eldorado Stone, San Marcos, Calif. CIRCLE 227





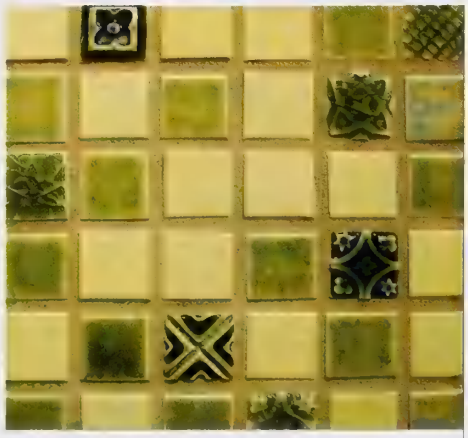
◄ Portuguese wall art

The ART collection of ceramic wall and floor tiles was inspired by the colors, environment, and mythical characters of the Douro Region of Portugal. Sombras, by sculptor João Castro Silva, features silhouetted night scenes (below); Gastromania, by painter João Vaz de Carvalho, focuses on whimsical characters carrying ingredients (left); Doiro, by sculptor Rui Vasquez, evokes the region's vines and rivers; and Afrodisíaco, by painter Bela Silva, features bizarre erotic couplings. 351 234 660100. Revigres, Agueda, Portugal. CIRCLE 228



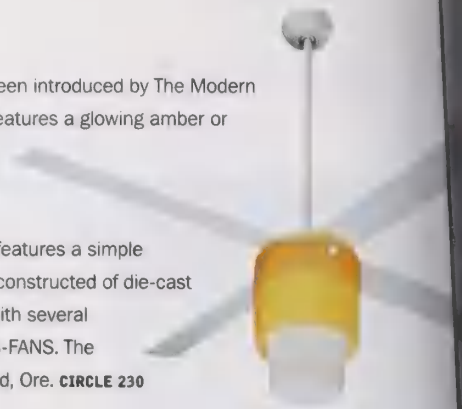
Product Briefs

► Ceramic eye candy



In 20 years, Pratt & Larson has grown from two artists working in a home basement studio to more than 70 people producing the nearly 1,000 items that make up the company's current product line. Pratt & Larson's decorative 1" x 1" bas-relief tiles are available in two pattern styles—12 geometrical and 12 botanical designs—in hundreds of color combinations. The decorative relief designs are available either in a single-glaze color or with hand-painted detail to accent the design, in a process known as polychroming. 503/231-9464. Pratt & Larson Ceramics, Portland, Ore. **CIRCLE 229**

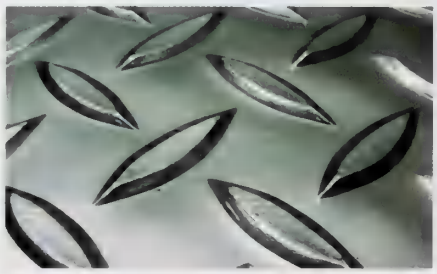
► Fan club



Three new ceiling fans have been introduced by The Modern Fan Company: Halo (shown) features a glowing amber or all-white glass center; New Aurora incorporates a 40-watt, T5 lamp positioned in a translucent diffuser; and Ball features a simple sphere housing. The fans are constructed of die-cast aluminum or zinc and come with several switching packages. 888/588-FANS. The Modern Fan Company, Ashland, Ore. **CIRCLE 230**

▼ Simulated steel for safety

Lonseal's toughest sheet vinyl, the Lonplate safety surface, has added a new pattern to its range of designs—Titanium. The Titanium pattern features an aluminum-sheen finish that is suitable for a range of interiors, including retail outlets, vehicle cabins, and other spaces where rugged slip-resistance is the key to safety. 800/832-7111. Lonseal, Carson, Calif. **CIRCLE 231**





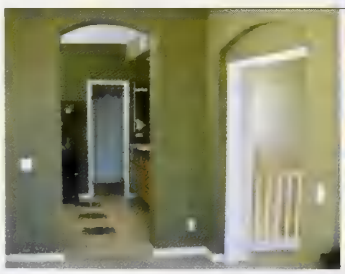
▲ Safe haven in a storm

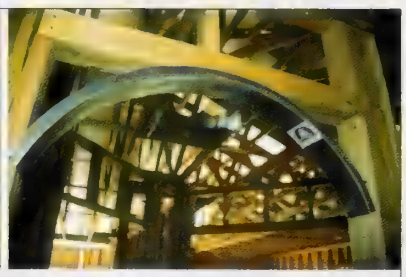
A new residential storm shelter, engineered to help protect families from the dangers of tornadoes, is available from DuPont. The DuPont StormRoom with Kevlar is a residential in-home storm shelter available in several rectangular configurations that features the strength of Kevlar sheathing built inside reinforced wall panels. When properly installed, the shelter helps to stop and deflect wind-borne debris, the greatest threat from a tornado. The StormRoom complies with the Federal Emergency Management Agency Standard 320 for a tornado shelter. 804/383-3845. DuPont Advanced Fibers Systems, Richmond, Va. **CIRCLE 232**



◄ First-ever wood screen

Marvin has introduced the fenestration industry's first wood screen, according to the manufacturer. The screen's frame has an all-wood interior that can be painted or stained to blend into the woodwork, and an extruded aluminum exterior that provides strength and rigidity to prevent warping. The screen is one of several options on Marvin's new Casemaster window, including an ergonomically designed handle. 888/537-8266. Marvin Windows and Doors, St. Paul, Minn. **CIRCLE 233**





▲ Easier arches

The Easy-Arch product line allows for quick installation of arched doorways, room transitions, and other home features. Available in a variety of standard sizes and dimensions, Easy-Arch preformed metal applications easily secure to framing to create an arch at a fraction of the cost of forming the shape in a traditional manner. Easy-Arch products are designed to be nonstructural and non–load bearing, requiring no additional permits or engineering. 800/854-2461. Easy-Arch, Murrieta, Calif. **CIRCLE 234**

▼ Radiant interiors

The steamlined Flow Form radiator from British company Bisque is now available in the U.S. The long, low lines and "gills" of the Flow Form increase the surface area of the radiator and maximize heat output, while the compact dimensions are suitable for small spaces. Italian designer Mario Talin redesigned the radiator, incorporating stylized feet and integrated pipe-work connections. He has also completed a new stainless-steel version suitable for steam-heating systems specifically for the U.S. market. 212/791-7070. 3-D Laboratory, New York City. **CIRCLE 235**




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◄ Signs of protection

InPro Signscape signs (near left) meet ADA, wayfinding, room-identification, or general-information requirements, as needed. Styles include tactile, partial and flush inlay, engraved lettering, and Grade 2 Braille. EnviroGT wall-protection products (far left) are manufactured from 100 percent recycled high-density polyethylene and certified wood. The line includes impact-resistant handrails, wall guards, and corner guards. 800/222-5556. InPro, Muskego, Wis. **CIRCLE 237**

► Getting that extra edge

Regency Company now offers custom edge moldings in Nevamar's Bravissimo collection of high-pressure laminates. The collection includes five granite designs in a range of colors, and it uses Nevamar's Armored Protection for increased wear resistance. 800/869-4724. Regency Company, Matthews, N.C. **CIRCLE 238**



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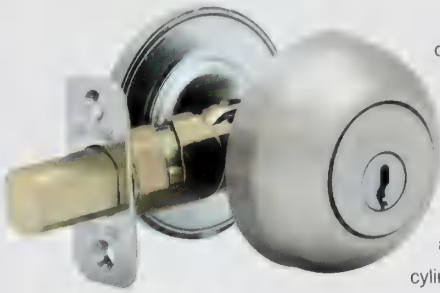
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Product Briefs



▲ Cyclonic central cleaning

Vacuflo's True Cyclonic Cleaning Action central vacuum system operates without bags or filters. The filtration system transports 96 to 98 percent of all dirt, debris, and dust particles through a network of tubing that runs through the walls and is deposited into a clear dirt canister, while the remaining fine dust particles are vented so they are not recirculated into the home. The in-wall tubing is installed in less than one day with no structural modifications needed. Vacuflo's no-vent option makes it an option for condominiums, apartments, or town houses. 800/822-8356. H-P Products, Louisville, Ohio. **CIRCLE 241**



▲ Homeland security

The Kwikset Grade 1 dead bolt (model 980, single cylinder shown) is part of the Kwikset UltraMax Security line of residential door hardware. The dead bolts are available in single and double cylinders. They are included on the Arlington, Chelsea, and Sheridan handle sets, which feature a titanium-alloy throw-bolt core, a 6-pin cylinder with anti-pick pins, and an Ultra-Strike Door Jamb Brace designed to prevent forcible entry. 800/327-LOCK. Kwikset, Lake Forest, Calif. **CIRCLE 239**

► Remote surveillance



GE's new SmartHome Security and Surveillance devices operate using wireless 2.4 Ghz radio frequency and various sensor technologies. The SmartLink Security System includes features such as wireless door/window, motion, smoke/fire, carbon-monoxide, glass-break, freeze, and water sensors. GE also offers a magnetic door alarm with programmable key pad and an indoor magnetic window alarm. 800/435-4448. GE Home Electric Products, Cleveland. **CIRCLE 240**

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Locks In Color Blocks Out Stains

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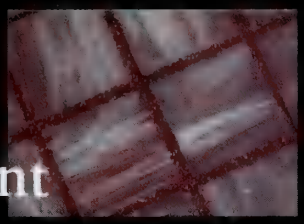
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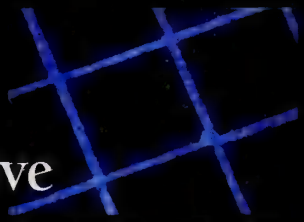
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Product Briefs



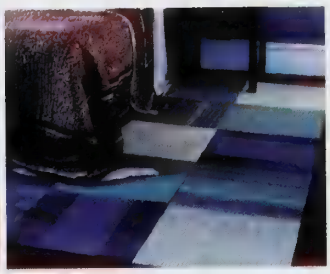
▲ Complementary materials

Alucobond material, which consists of two sheets of .020" aluminum bonded to a thermoplastic core, was used along with brick and limestone to create the exterior cladding for the headquarters building of the Missouri Higher Education Loan Authority, in Chesterfield, Missouri. The custom-color, prefinished, composite-metal-panel system allowed for a smooth flowing radius around the building's entry and extended past the roofline to create an integrated rooftop-equipment screen. 314/878-2303. Alcan Composites USA, St. Louis. **CIRCLE 242**

▼ Residential modular flooring

Interface introduces InterfaceFLOR, a high-style modular floor covering for the residential market. Composed of movable 19½"-square tiles, the flooring can be installed over almost any floor surface, from vinyl tile to concrete. Due to its modularity, InterfaceFLOR can be rearranged easily to transform the look of a room or can be quickly replaced and cleaned. Individual tiles can be washed in the sink or shipped back to InterfaceFLOR for recycling. 866/281-FLOR. Interface, Chicago. **CIRCLE 243**





► Certified paint



The Horizon line of zero-VOC interior and low-VOC exterior paint from Rodda Paint has earned certification from Green Seal, a national organization that certifies high-performing products that are easy on the environment. In gaining this designation, Rodda Paint claims to be the first in the U.S. to offer a full line of precertified interior and exterior paints and primers that will help to qualify for credit under LEED. 800/452-2315. Rodda Paint, Portland, Ore. **CIRCLE 244**

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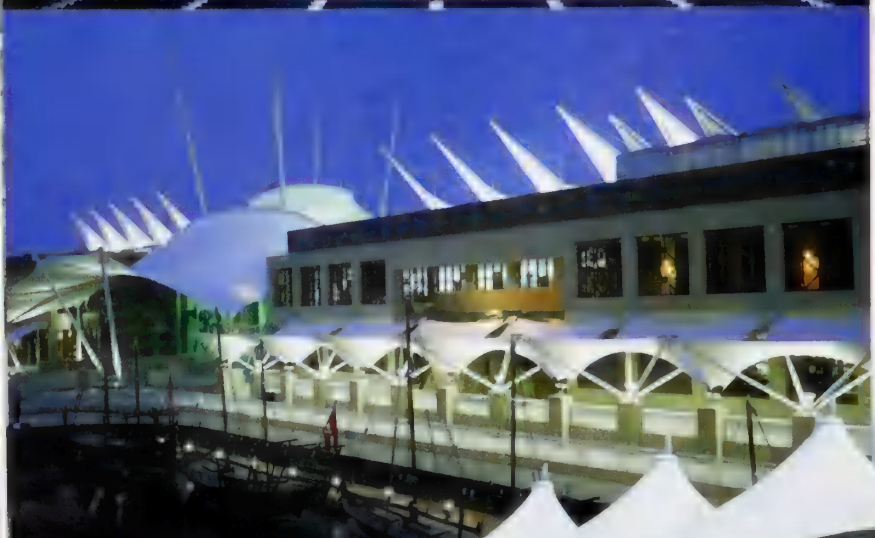
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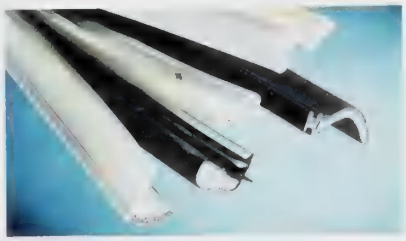
Hand-screen-printed wallpaper

Mahandi is the latest hand-screen-printed wall-covering from Yonkers, New York–based designer Carolyn Ray. Named after the Mahandi tree that produces henna sap for the arms of Indian brides, the pattern on the 27"-wide Class A fire-rated wallpaper is a companion to an earlier design from the company named Foo Lim. Mahandi features a leafy cascade motif in four color offerings: Taj Express, Monsoon, Darjeeling (shown), and Groove Mahal. Mahandi is printed on acrylic-coated paper or contract-weight vinyl and has a 36" half-drop repeat. 914/476-0619. Carolyn Ray, Yonkers, N.Y. **CIRCLE 245**

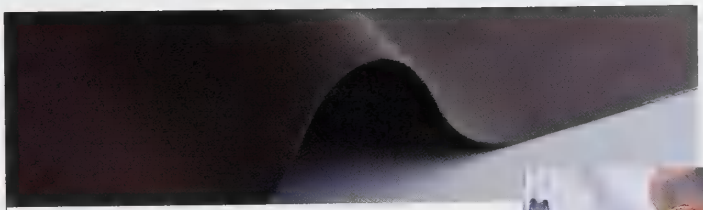


PHOTOGRAPHY: © ROBERT JACOBS FOR CAROLYN RAY

► Watertight seal



Foam-Tite soft-foam TPV seals for use in residential weather-seal and commercial-glazing applications are made with Santoprene thermoplastic vulcanizate (TPV) using an environmentally responsible water-blown extrusion process. The soft foam with closed-cell construction absorbs less than 2 percent of its body weight even after 24 hours total immersion in water. 330/849-5000. Advanced Elastomer Systems, Akron, Ohio. **CIRCLE 246**



▲ Coating collaborations



The Sto Watertight Coat is a flexible and breathable waterproofing membrane based on a combination of acrylic emulsion, Portland cement, and fine fibers. It is used to waterproof all types of above- or below-grade concrete and masonry, including foundations, block walls, balconies, parapets, planter boxes, water tanks, and fountains. 678/553-3278. Sto, Atlanta. **CIRCLE 247**

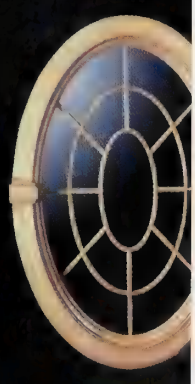
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Product Literature

Landscape lighting solution

Allscape offers a new brochure detailing Focca, the company's newest family of contemporary above-ground floodlighting fixtures. The eight-page brochure provides a range of black-and-white photographs highlighting the features and benefits of the luminaire. 800/854-8277. Allscape, Santa Ana, Calif. **CIRCLE 248**

Safety stair and floor systems

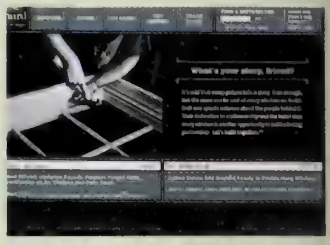
Musson Rubber's new catalog illustrates safety products, including the company's fire-safety, grit-strip, and glo-strip stair systems, and those for the visually impaired. Matching flooring, including Disco, Low Disc, Square, and Diamond tiles, are displayed in an expanded color line with related accessories. 800/321-2381. Musson Rubber, Akron, Ohio. **CIRCLE 249**

Prismatic lighting fixtures

A color brochure from Holophane, *Illuminaire, The New Shape of Light*, details the company's new line of prismatic glass lighting fixtures. In addition to showcasing each new shape, the brochure details fixture advantages, finishes, lamp choices, mounting heights, and options. 740/345-9631. Holophane, Newark, Ohio. **CIRCLE 250**

NEW SITES FOR CYBERSURFING

Redesigned site features window/door info, company history, photo gallery, and tools to expedite bids **www.hurd.com**



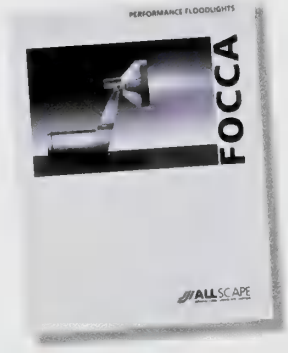
Site features new fabric collections, sample ordering, and finish information **www.unikavaev.com**

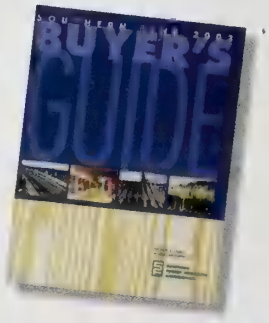
National showroom locator service from the Decorative Plumbing and Hardware Association **www.dpha.net**

Info about doors, frames, and fire ratings **www.benchmarkHMF.com**

Southern pine lumber guide

The Southern Forest Products Association has published the 2003 edition of the *SFPA Buyer's Guide* containing a complete listing of products and services available from its members. This annual directory presents the full range of products manufactured, as well as services and equipment, grade separations, and more than 40 specialty items produced by member mills. 504/443-4464. Southern Forest Products Association, Kenner, La. **CIRCLE 251**









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Product Literature

Wireless panel system

Armstrong is offering a new brochure on its i-ceilings Wireless Systems, an in-building system that integrates antennas with acoustical ceilings to enable clear, reliable coverage for wireless communications inside commercial interiors. The brochure explains applications and benefits, and includes illustrations depicting how typical in-building voice and data systems work with i-ceilings. 877/276-7876. Armstrong World Industries, Lancaster, Pa. **CIRCLE 252**

Antique-woods seminar on CD

Goodwin Heart Pine Company, one of the leading manufacturers of original-growth heart-pine and heart-cypress flooring, has compiled a CD seminar especially for designers, architects, and builders. The course takes about two hours and is available in PC and MAC formats. Upon completion, two continuing-education credits can be earned from most major professional organizations by completing a form online or faxing it to Goodwin. The viewer will learn about antique woods, how to evaluate variation grades, compare characteristics of antique woods, and ensure the receipt of true original growth woods. 800/336-3118. Goodwin Heart Pine Company, Micanopy, Fla. **CIRCLE 253**

Tensile structure brochure

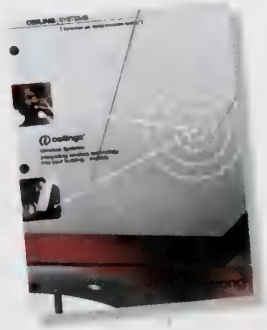
Birdair's new corporate product brochure features lightweight structural systems for architectural designs, including stadiums, amphitheaters, transportation terminals, retail centers, convention centers, and museums. It also features shade structures, including cafés, pool patios, cue lines, playground shade, bus depots, and car parks, to complement outdoor architecture and landscape designs. 800/622-2246. Birdair, Amherst, N.Y. **CIRCLE 254**

Air-filtration aides

Camfil Farr has released a new catalog that incorporates the company's full range of air-filtration products. Available in CD and binder formats, the catalog includes product and technical information on the comfort-air, clean-processes, and safety-and-protection lines. In addition, the CD includes technical bulletins on several timely air-filtration topics, including "Mold and Air Filtration" and a review of "ASHRAE Testing for HVAC Air Filtration." 973/616-7300. Camfil Farr, Riverdale, N.J. **CIRCLE 255**









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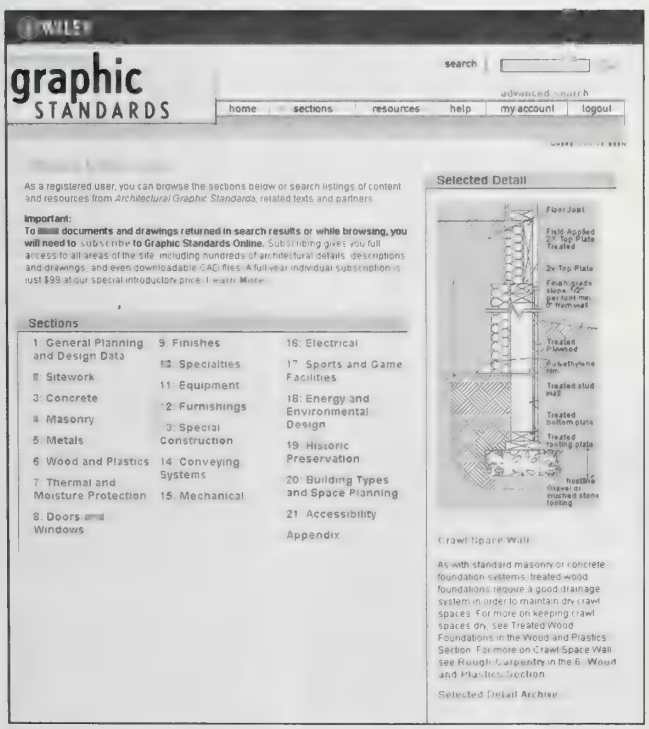
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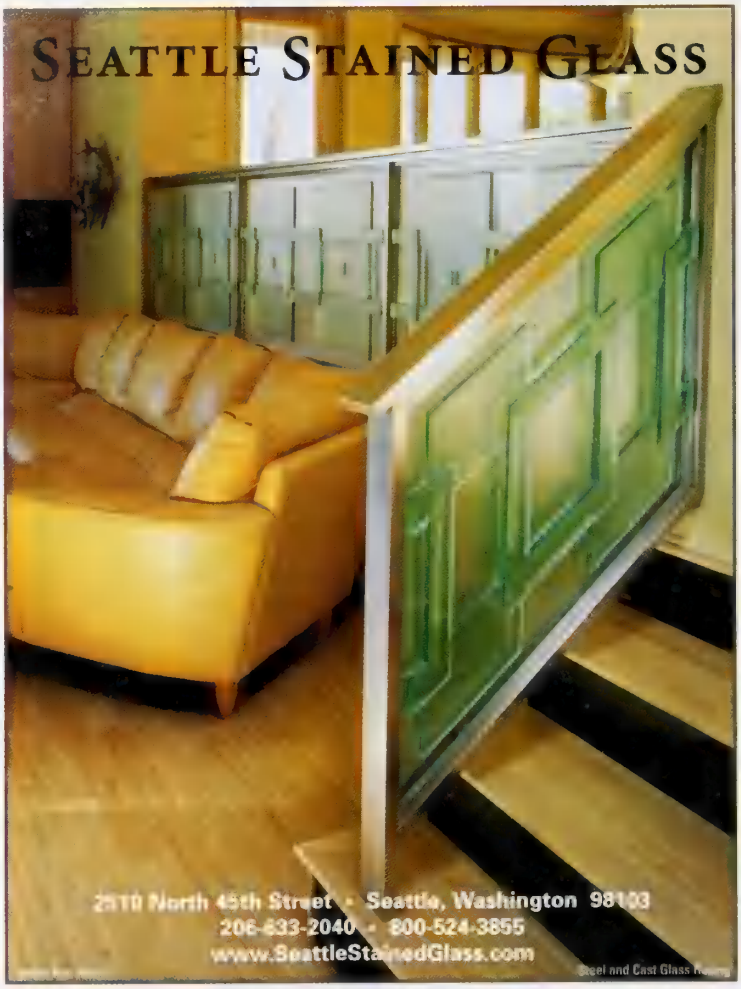
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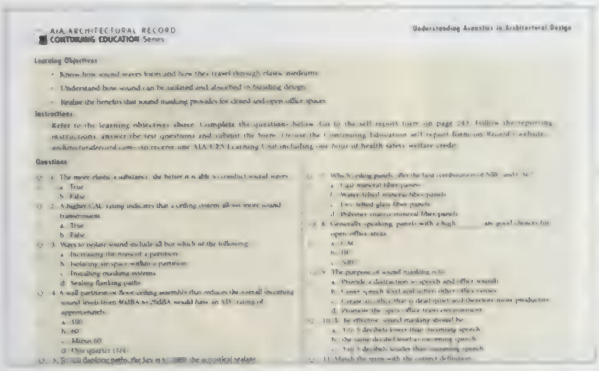
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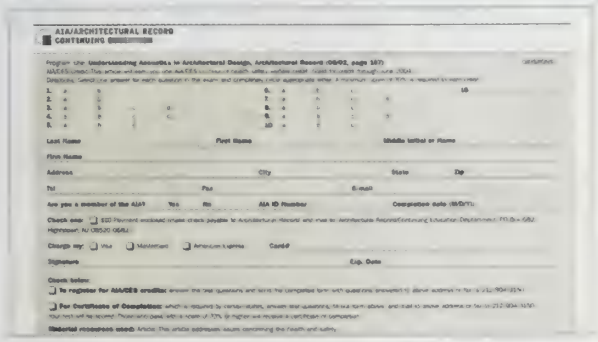


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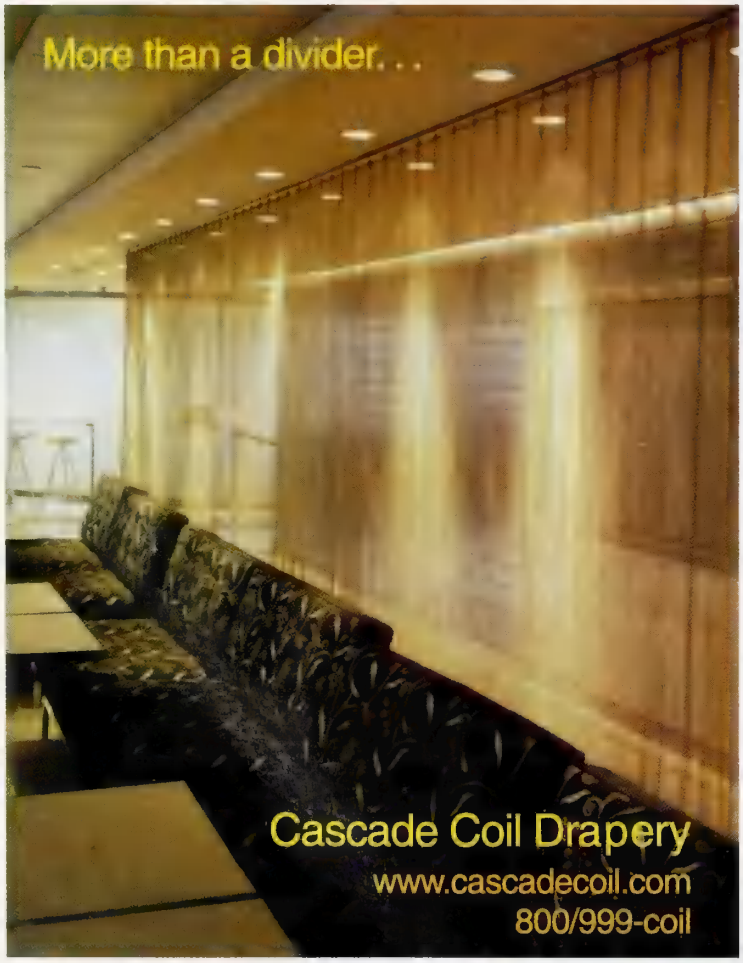
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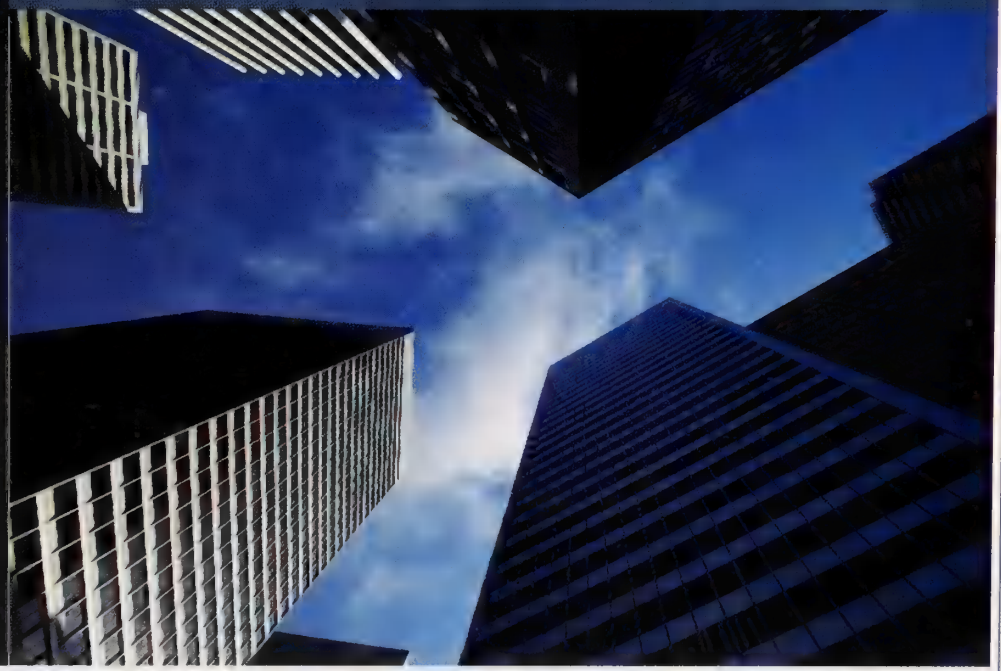


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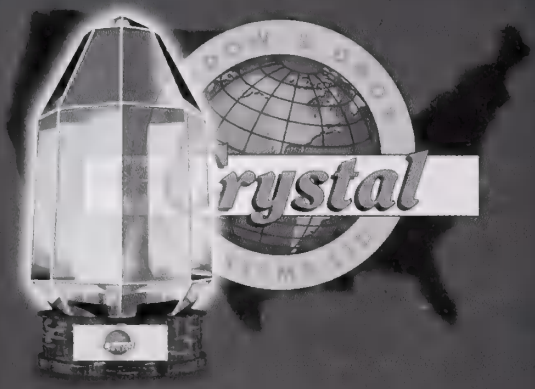
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AIA HONOR AWARDS *(continued from page 151)*

aspect that is more than a styled image is the interior vertical campus, an attempt at creating a dynamic space of interaction, of scratching at something beneath the surface.

Machado and Silvetti seem, on the other hand, to be *re*constructing when they piece together forms clad in various materials to compose the branch of the Boston Public Library in Allston, Massachusetts. Wood paneling and stone cladding held in place by extraordinarily overscaled metal clips draw attention to the surface, and their application to distinct shapes suggests more programmatic than spatial ambitions.

One of the "real" deconstructivists included in the MoMA show, Bernard Tschumi, claims that his Rouen complex "provides a strong contemporary image for the cultural development and economic expansion of the district." This image, however, cannot be completely captured in photographs. In fact, programmatically, the image glimpsed from the highway must make a strong, albeit fleeting, impression in order to attract users to the site. Rigorous and modern, the glazed exhibition hall and steel-clad theater play the transparent against the opaque, suggesting the openness of the market and the hidden magic of the stage. This project is beyond deconstruction.

Morphosis, on the other hand, celebrates the tilted planes and fragmented forms associated with deconstruction in an organization of buildings and landscape that comprises Diamond Ranch High School. Though clad in the corrugated metal and concrete typical of the contemporary tactile materials project, here the choices are wisely resilient, and the interior street that results from the plan organization is a welcome urban space of interaction, both formal and found.

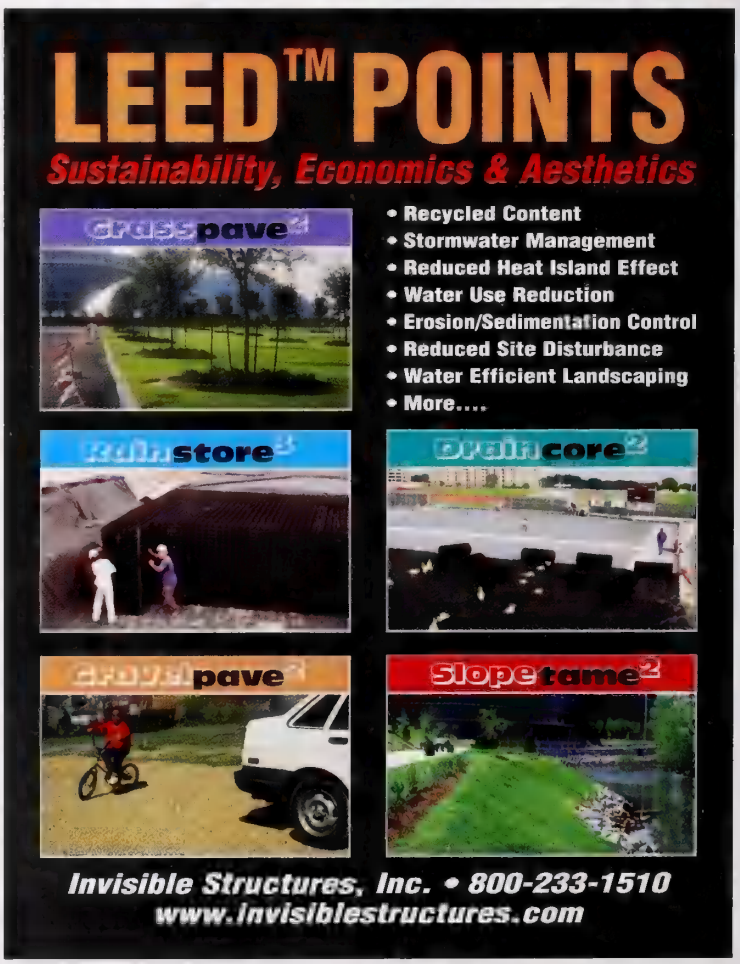
Steven Holl's new Simmons Hall dormitory for MIT absorbs a "sponge" motif, which is merely Holl's cool explanation for a building of immense complexity. An arresting image and form, the perforated facade and hollowed-out atria set a precedent in dormitory design. Likewise, Williams and Tsien attempt to make "the extraordinary from the ordinary." While circulation spaces animate the interior of their American Folk Art Museum, the architects still push a folded and articulated tombasil metal [a white bronze alloy] surface onto the exterior, both to call attention to the small museum (hidden in the arms of MoMA) and to give it a self-reflective image.

Perhaps the most striking image—both for its formal qualities and its consistent Modernism—is Richard Meier's federal courthouse in Central Islip. There is something to be admired in Meier's unwavering dedication to an aesthetic that, clad in brilliant white metal and glass, never fails to say "Modern." Sadly, however, it also seems to mark the end of an era: the end of geometric formalism, the end of Le Corbusier, the end of the smooth white panel. It's an end that Meier himself must see coming, when an Honor Award is given to something as colorfully banal as Rios Associates graphics-as-architecture in the Los Angeles Primary Centers.

The worst offense in architecture today—an act that capitulates to media—is the substitution of graphics for content. At the very least, the articulated surface—whether oversize clips on stone or hand-cast bronze—offers a resistance to the complete collapse of architecture into the glib surface. It may not be far off when a project like Asymptote's Virtual Stock Exchange, itself created to enhance the image of the New York Stock Exchange, will appear as a design winner. In fact, this unpremiated work should already have been recognized by the Honor Awards program. For only by acknowledging the nonspatial will architects understand design's function as image as well as the nature of its physical, tactile, and spatial properties in a changing world. ■



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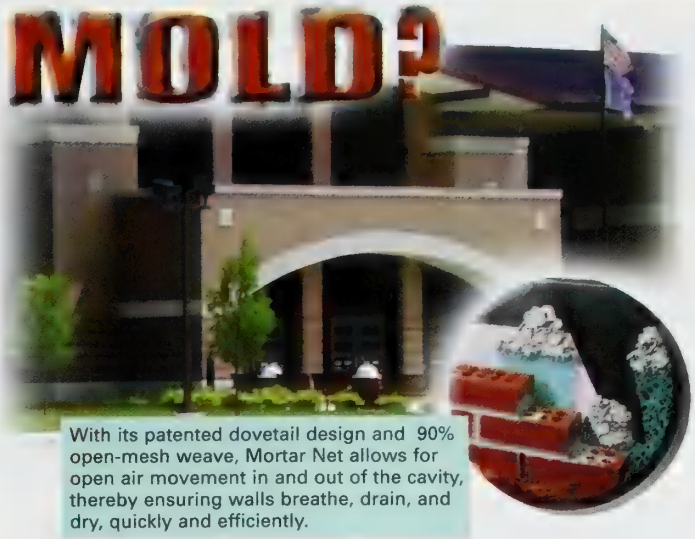
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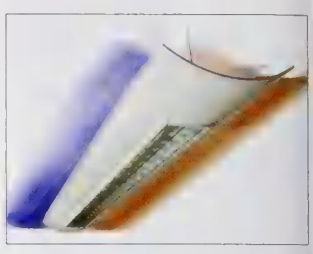


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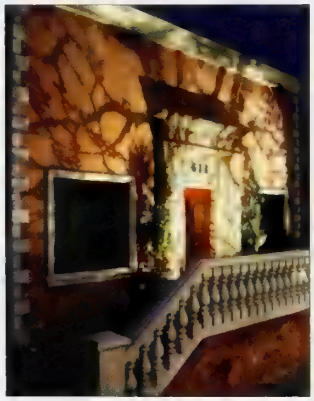


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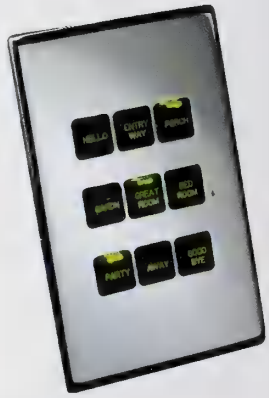


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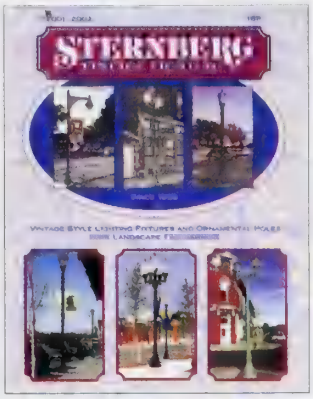


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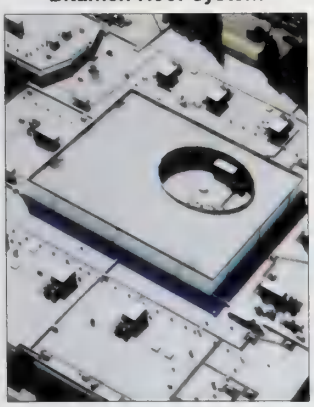


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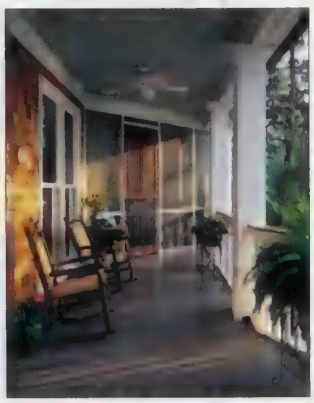


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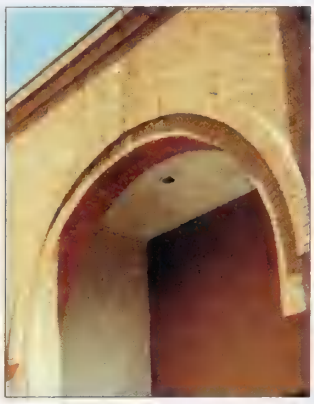
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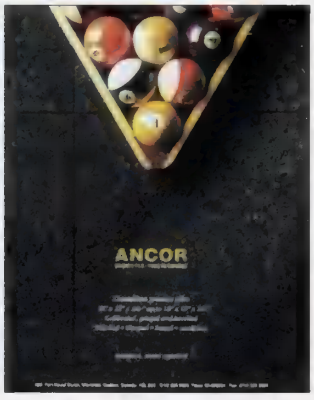


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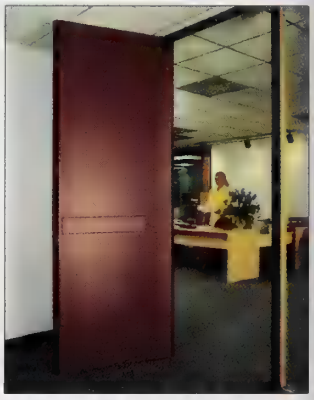


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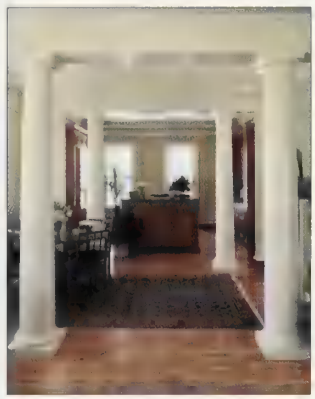


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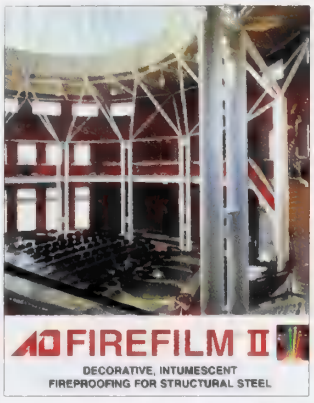
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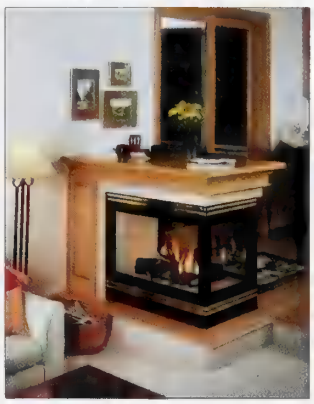


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ADESO Dual Compound Self-Adhesive Membranes

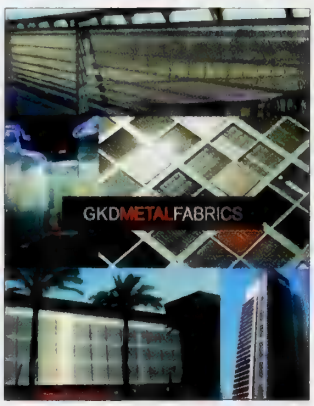


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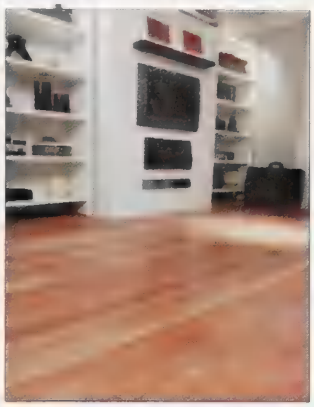


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ChoiceDek® Decorative Railing System Brochure



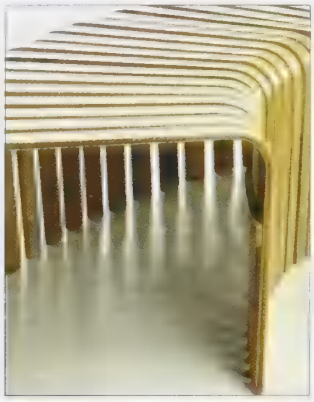
Weyerhaeuser Building Materials is offering its ChoiceDek® Decorative Railing System brochure to builders and homeowners who are interested in using the most innovative composite railing system for deck projects. The tri-fold brochure offers full-color product photos, technical information and specifications, and warranty. To receive a free information kit, call Weyerhaeuser Building Materials at 877-235-6873 or visit www.weyerhaeuser.com/wbm.

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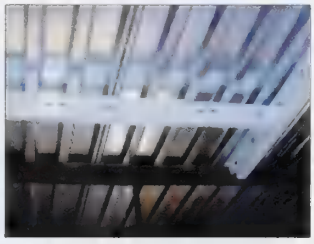


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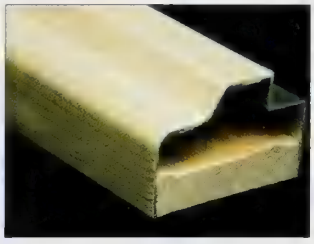


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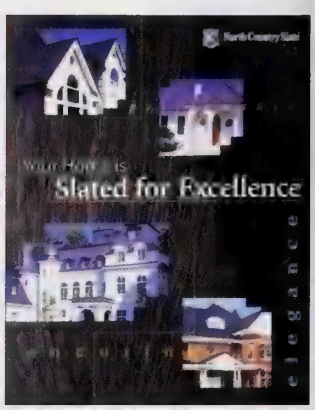


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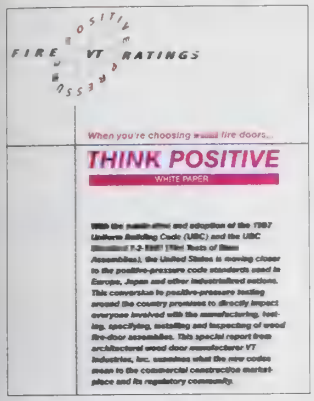
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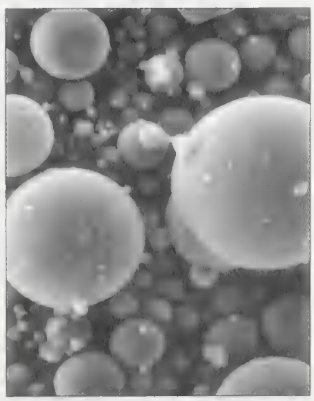


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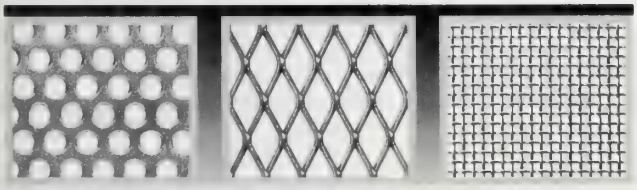
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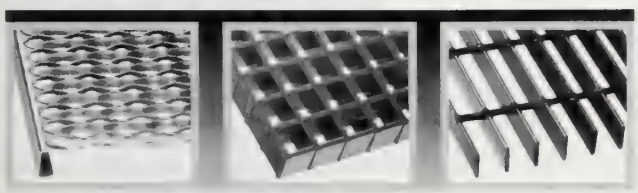
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Writer Erik Larson adds madness and magic to architectural history

Interviewed by Suzanne Stephens

At the top of the New York Times' *nonfiction best-seller list for March 23, 2003, was a book vividly recounting the history of the World's Columbian Exposition in 1893. Yet* The Devil in the White City: Murder, Magic, and Madness at the Fair that Changed America *(Crown), by Erik Larson, is not your normal architectural history. In the developing genre of a "narrative historical nonfiction," Larson, a journalist and author, has woven together the true stories of two men who built structures related to the Chicago World's Fair. One was Daniel H. Burnham, chief planner for the fair; the other was Dr. Herman Mudgett, alias H.H. Holmes, a serial murderer who designed the World's Fair Hotel, where single women checked in, but didn't check out.*

Q: *How did you conceive of this dual thematic device for a book about the fair?* I didn't want to do a book just about H.H. Holmes—he was too over the top. But the story of Holmes in the context of the fair had a creepy juxtaposition in time and space between this magical, brilliant endeavor and these acts of absolute darkness.

What can you say about your approach? I look for hidden nuggets of information and try to bring out the stories that historians put into footnotes. Fortunately, Burnham's story is a classic narrative you can't make up: Burnham sets out with John Root as a team, in which Root is the actual creative one [the consulting architect], and Burnham is the executor [chief of construction]. The two get this job to do this impossible thing, and then Root dies. Then, with all the obstacles, such as the bad soil, snow, rain, and finally a national depression that began the week the fair opened, the story became irresistible.

Did you have difficulty ferreting out all the facts about the peculiar-looking World's Fair Hotel, in Englewood, with its hidden crematorium and gas chamber? Holmes's hotel was described in news accounts, with floor plans published. And several photos exist.

You point out that the fair attracted 27 million visits in a country with a population of 65 million, and a city of one million. Yet trains were quite expensive. According to one account, second-class seats on trains from New York to Chicago cost $17 one-way (which would translate into $560 today). The tickets to the fair were 50 cents ($16.50 today), and the Ferris Wheel cost 50 cents. Figuring out comparative costs between the two periods is difficult. The railroad and admission fares were considered steep but not unaffordable. The big challenge was to keep the prices low enough to attract maximum attendance. Yet the railroads wouldn't give discounts. People went to huge lengths to get to the fair. I couldn't find great sociometric numbers, but by steeping myself in the literature of the time and newspaper accounts, I gather that people of all kinds were there. Also, a lot of free passes were given out—many to the upper classes. It drove Burnham crazy.

The architecture community is naturally happy when an architectural book, especially a history, becomes a best-seller. Architecture is a great story, but it is a hard sell to the reader—which is perplexing if you think of the impact of architecture on all of us. I had this desire to be an architect, but I realized that I had to know engineering and math. It wasn't for me. Instead, I studied Russian history at Penn, went to Columbia University's journalism school, and then worked for places like *The Wall Street Journal* and *Time* magazine. Yet, I remained interested in architecture. Chicago—and New York—are cities of great architectural interest. But you do need a great story to go with it.

Portrait by Benjamin Benschneider



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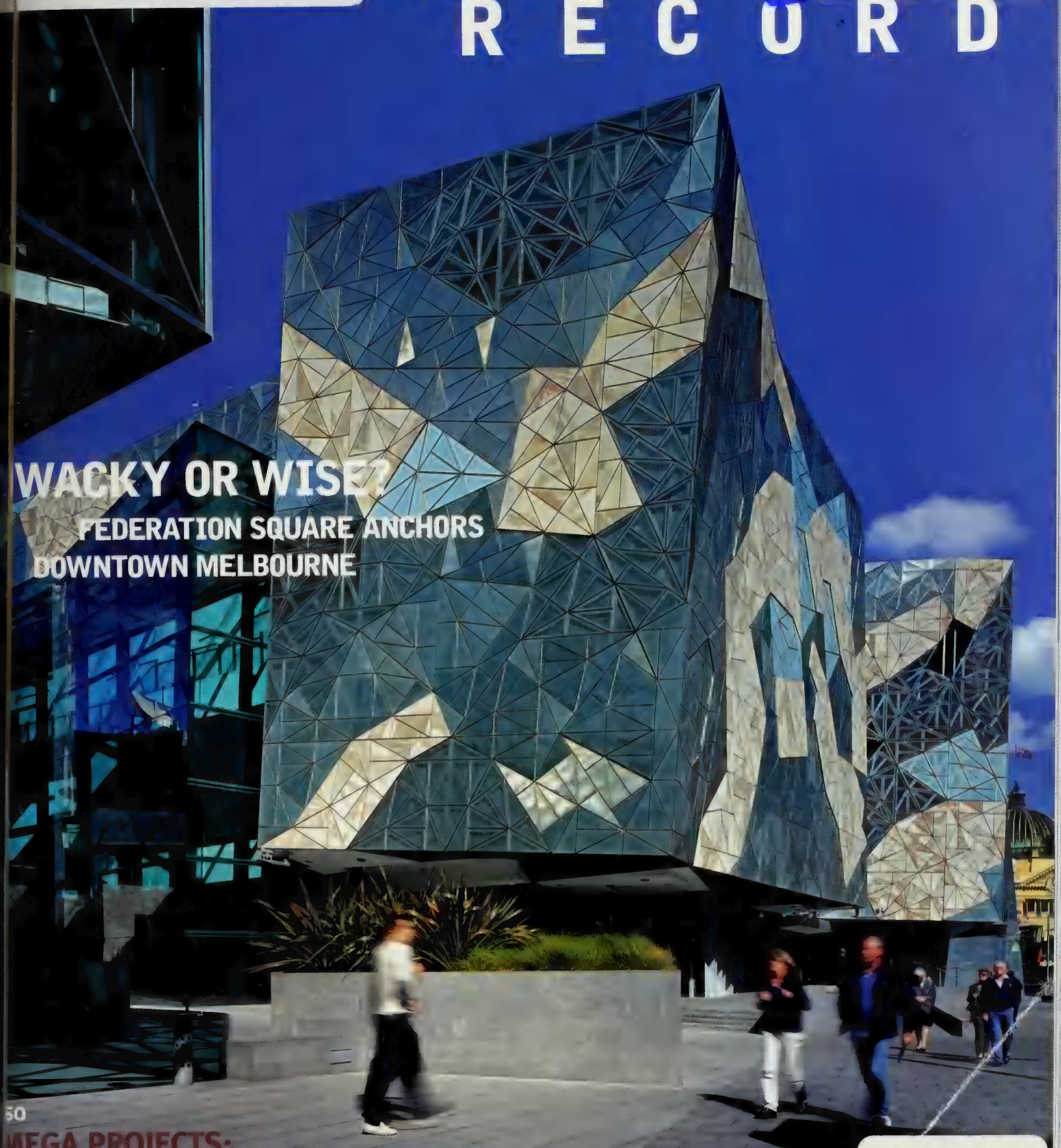
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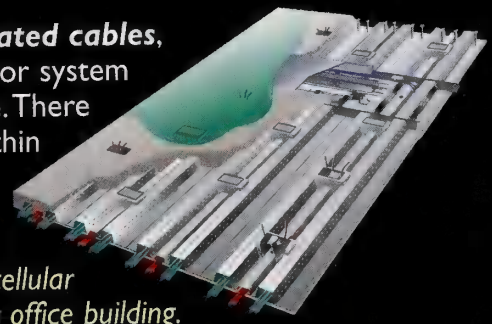
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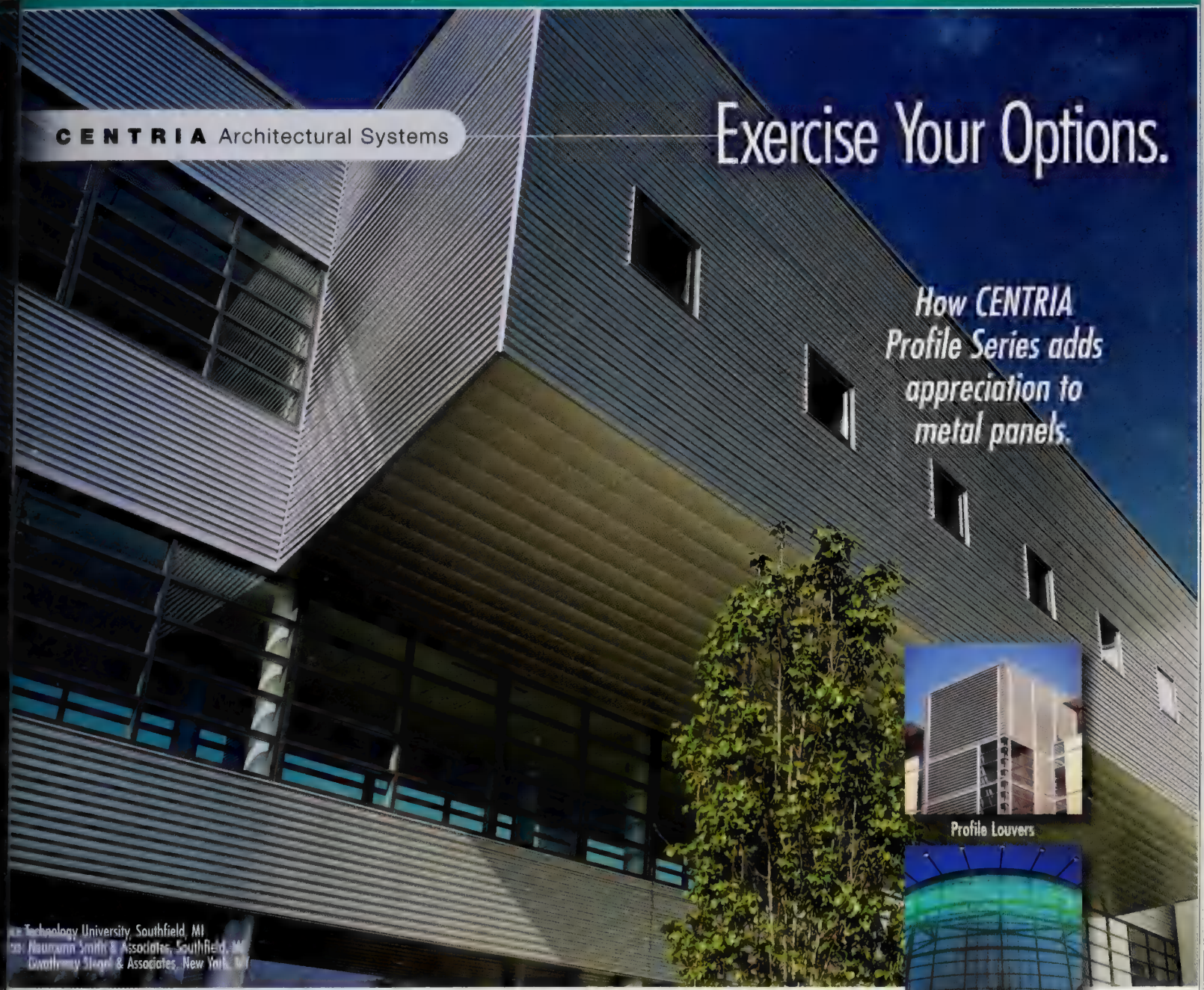
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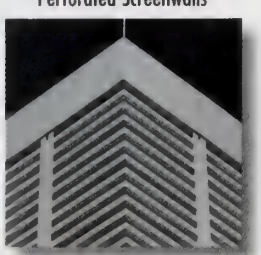
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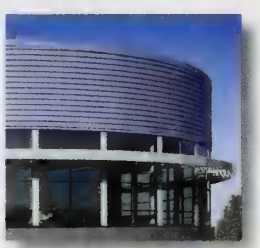
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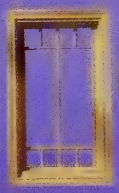
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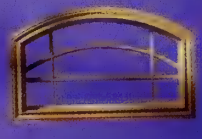
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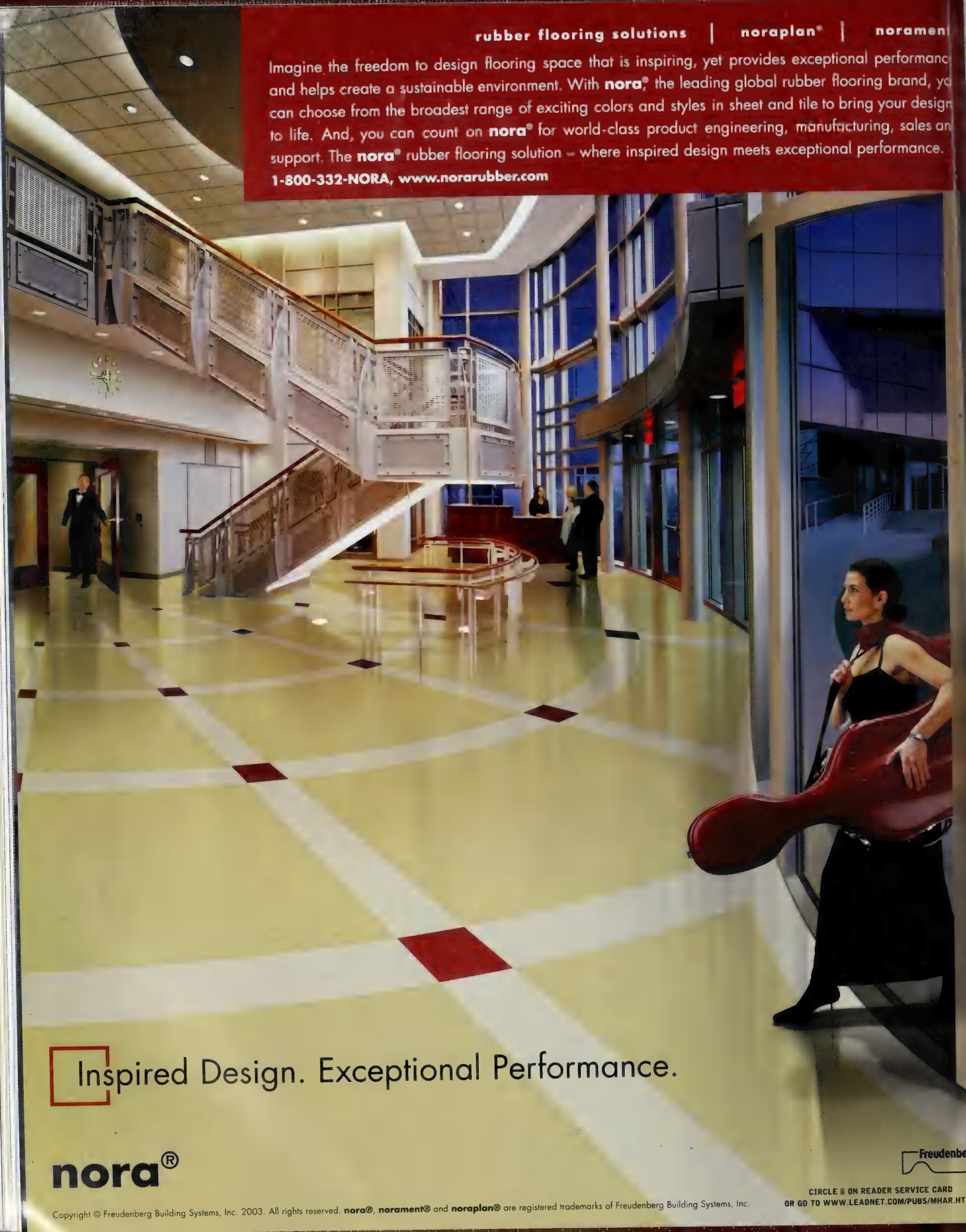


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ARCHITECTURAL RECORD

06.2003



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The AIA/ARCHITECTURAL RECORD Continuing-Education Opportunity *is* **"Taking the Brown Out of Brownfields"** *(page 185).*

* You can find these stories at **architecturalrecord.com**, including expanded coverage of projects, continuing-education opportunities, and Web-only special features.



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Daily Headlines

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Expanded Building Type Study: Offices

No Office Politics Here. Our expanded BTS: Offices will feature several additional projects not featured in the magazine. Including detail drawings, pictures, descriptions and information on the people and products involved.

Project Portfolio

Around the World. This month's project portfolio showcases an array of international works from Australia to the Netherlands. Click online to get more information on the people and projects involved.

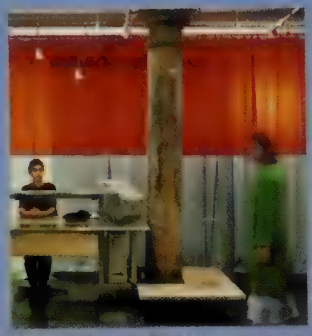
World Trade Center

Rebuilding News. Get the latest updated coverage on the rebuilding process with news and insight.



Interiors: Hotels

Check In! Extended coverage of the four hotels featured in this month's issue, including listings and contact information on the people, projects and products involved.



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News: Get the scoop of Tom Wiscombe of Emergent who has won the commission for the PS1 courtyard design.
Design: *Mad About Mesh.* Learn more about Mesh Architectures, a Manhattan based firm that combines physical architecture with the design of web "spaces."
Live: *Solid Gold CAD.* Read about a Dallas architect who has written a program that allows his MIDI music files to run through AutoCAD.

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Digital Practice

Our entire digital practice section is available online. Check out one of our features on a visit with Richard Epstein Architects; find out how the firm handles its technology issues and get the latest on their software purchases.

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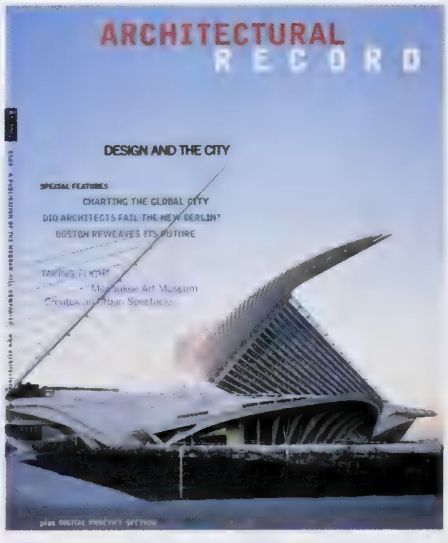
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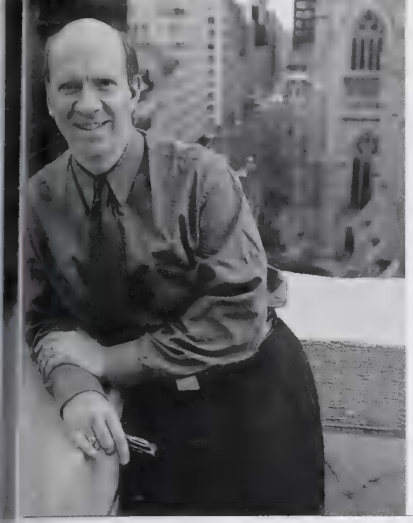
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Winner

2003 National Magazine Award for General Excellence



* AMERICAN SOCIETY OF MAGAZINE EDITORS



A ballroom, a prize!

Editorial

By Robert Ivy, FAIA

Scene One. Talking to ourselves. Setting, the vaguely pink ballroom of the largest convention hotel, Anywhere U.S.A. The acrylic crystals in the overscaled chandeliers reflect the dimming lights. The last of the overcooked, thin filets are cleared; the coffee and dessert are being jostled onto the tables while the crowd simmers down. Your mate squeezes your hand as you force a smile, stoked by one too many margaritas during the cocktail hour. The honor awards ceremony has begun.

This year it mattered. For once, your work had reached a level of creativity and experience that warranted the extra effort and cost that the state awards program demanded. The clients loved their new project and wanted to see it communicated to others: They said so repeatedly. It mattered to the office—to the project managers and specifiers and night-owl junior designers who perfected the details.

So you sprang for the professional photographer, paid too much for the gorgeous pictures, assembled the boards, wrote the self-congratulatory copy, and now find yourself in this ballroom, with the dean of the state university making jokey comments about his in-crowd designer friends and snide remarks about the projects in general. With clients present. Why should this evening feel like a toothache?

Despite the fact that your project clearly stood out from the pack, when the emcee announced winner number six, suddenly the glaring lights returned and it was clear that somehow, the jury in Los Angeles, those names you admired so much, hadn't picked your work. Was it all a mistake? While the crowds swelled around the lucky few, you took a long walk to the parking lot and had a meaningful talk with your spouse about fickle juries, while your partner dog-cussed the dean. Before falling asleep, you determine that you'll enter again next year and show them all.

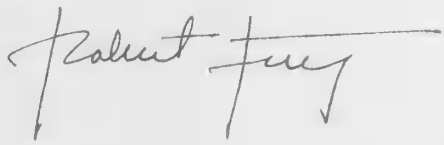
*Scene Two. Talking to others. Setting, the pink-lighted Moderne luxe of the Waldorf-Astoria ballroom, high spring. The last of the cold halibut luncheon plates has been cleared as the crowd simmers down for the National Magazine Awards. Here, our table of 10 represents a small architectural outpost—*ARCHITECTURAL RECORD*, a tiny David in a sea of Goliaths (think* Business Week, Oprah, The Atlantic Monthly, *and* The New Yorker*).*

After the music swells for individual achievements in writing or editing, the category then shifts to General Excellence, the top award. There will be five winners representing the best of the best, sorted by circulation. Amazingly, we find ourselves as finalists in this exalted company, competing in our own heat with Harper's *and* Mother Jones *and* Nylon *and* Preservation, *just as nervous as anyone would be, but honestly satisfied to be included, when—low and behold—the emcee calls out, "Architectural Record."*

Winner! But with a difference. At the luncheon, not only our magazine but all architecture took a small leap forward. For once, we emerged from the pack of professional publications, away from the esoteric or the academic shelves. Finally, we were not only talking to ourselves, but to the world.

Though simplistic as a message, it is true that persistence pays off, for we had tried before. However, on Wednesday, May 8, 2003, ARCHITECTURAL RECORD *and all architecture took center stage at the Waldorf, at a time when our subject has entered the public debate. We did it, the jury said, on the strength of our writing, our design, our photography, and our social concern. The best editors in the country recognized it, and we did it for you.*

While awards events may be tedious for editors as well as architects, they can place our work before a larger audience and propel the discussion outside of our peer group. Who knows? One day you may find yourself bounding onto the stage in another pink ballroom, admitting to yourself what we did: If truth be told, winning feels so sweet.



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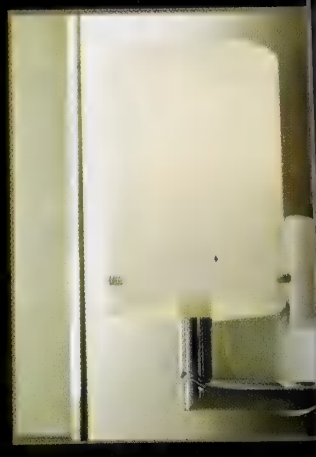
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Letters

Starting them young

James Russell laments the status of architecture in America ["Where are we now," March 2003, page 88] but fails to indict the major cause. He correctly cites the tendency for developers to seek only cost-effective approaches to building, resulting in the cheapest possible construction. But the real reason that builders fail to incorporate good design is that the architecture profession has failed to educate the public on the value that good architecture contributes to any project. Education is a primary responsibility of every profession. To profess is to teach, as we see in the word "professor." The medical profession fulfills one of its primary missions as it teaches good nutrition and health habits. The dental profession has been successful in virtually eliminating dental decay through research and education.

In contrast, the profession of architecture is almost invisible in our society. In grades K-12, even when art is included in the curriculum, architecture is rarely mentioned. Frank Lloyd Wright correctly called architecture the "mother art," noting that the cave wall was man's first canvas. A school art program that included architecture seems to be a logical choice.

The typical American grows up in houses built with no consideration of the site, the orientation of the sun, or the lifestyle of the occupants. With this type of life experience, it is unlikely that a developer/investor will turn to an architect to design a housing project.

When a significant new building is erected, it should be critically reviewed, just as an artwork is reviewed by an art critic. Citizens are obliged to view a new structure for a generation or longer. They should be protected from visual pollution.

Perhaps it is time for architects to push back from the drafting table and enter into conversation with the public in schools and in the community.

—Robert M. Rubin
Chesapeake, Virginia

A pilot program with the goal of encouraging preschool and early elementary school children to explore their built environment has just been successfully completed by the American Architectural Foundation (AAF) and Learning and Leadership in Families (LLF). Called "Messages of the Built Environment," the program was tested in Title One and Head Start classrooms in Baltimore; Washington, D.C.; Fairfax County, Virginia; and Prince George's County, Maryland. For more information, visit their Web site, www.archfoundation.org/education/.

Bearable lightness of being

The Visiting Artists House [Record Houses, April 2003, page 148] is an achingly intimate space, saved from perfection only by it's very existence.

Thank you Jim Jennings, Steve and Nancy Oliver.

—Olda Zinke
Zinke Design
Lynnwood, Washington

Roots residential

I noticed in April's editorial [A new case, page 23] that the first edition of ARCHITECTURAL RECORD dedicated to houses featured a house designed by Ulrich Franzen. Any chance we could see a few of the photos? I worked with "Rick" Franzen in the late 1980s and greatly appreciated his interest in always having a residential project in his office. This interest allowed employees to explore unique materials and detailing that would have been impossible in more commercial projects. Your magazine provides this service, as well.

—R. Scott Akins, AIA
Naples, Florida

Happy to oblige! See photos below.—The Editors

Keeping the big picture

In March we drove to New York to attend *The State of Architecture at the Beginning of the 21st Century*, a conference at Columbia University. As architecture students from the University of Toronto, it was an exciting opportunity to hear some of the top luminaries of the profession speak. Discussing the conference on the ride home, however, we suddenly realized what we hadn't heard: In two days of intense discussion, there was no mention of social or ecological concerns. In a conference that promised to survey the current state of architecture, discussion was limited to architecture for architecture's sake; there was next to no mention of the broader implications of architecture in a world outside itself. We believe architects have an opportunity (if not a profound responsibility) to address problems in our society and environment. We can only hope this conference does not reflect the state of architecture at the beginning of the 21st century.

—Joy Charbonneau, Coryn Kempster, Noam Lamdan
Toronto



The Franzen House in Rye, N.Y., by Ulrich Franzen. Photos by Elliott Erwin.

Reuse, renew, preserve

With respect to the AIA/DoE awards for "green projects," I believe the promoters and the juries of these awards should look closely at the "greenest" possible projects all around us—those vintage and historic buildings that are rehabilitated for continuing viability and useful service.

First, there is the obvious energy cost for the materials and labor to construct a replacement building. Next, add the cost in energy required to bake the bricks, fabricate the steel, transport the materials, and perform the labor required to initially create one of those often beautifully crafted vintage structures. Finally, add the unnecessarily wasted energy to demolish them, then transport the mountain of debris into an already choking landfill.

Want to be really green? Get on the preservation bandwagon!

—Robert E. Mackensen,
Consulting Preservation Architect
Yuba City, California

Corrections

In the May issue AIA Honor Awards coverage for urban design [page 166], architecture firm Crandall Arambula's name was misspelled, as was that of Torti Gallas and Partners. In the January issue's article about the Brentwood Station project, Busby + Associates would like to clarify that Adam Slawinski was an instrumental part of the team for the conceptual and schematic phase of the design process.

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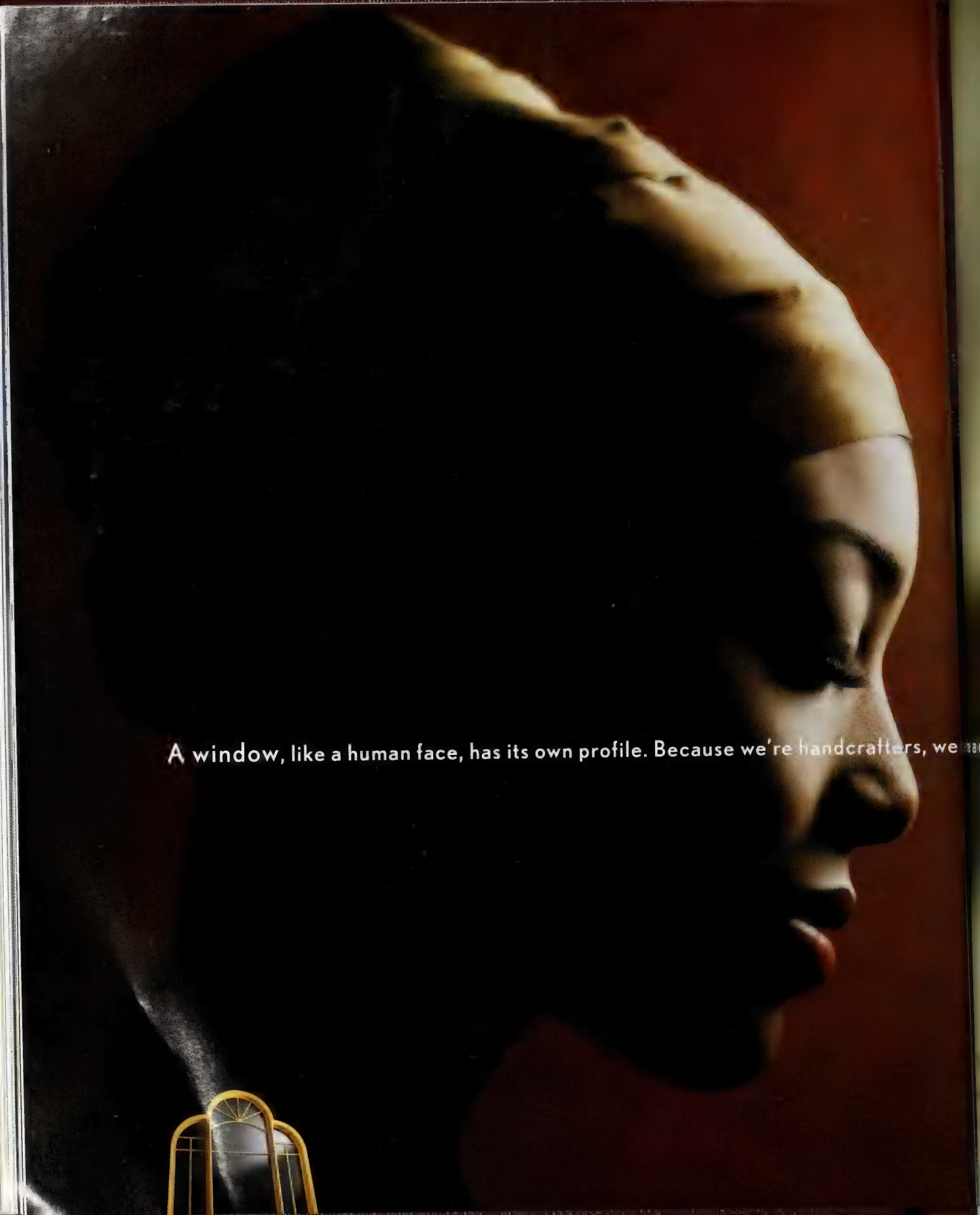


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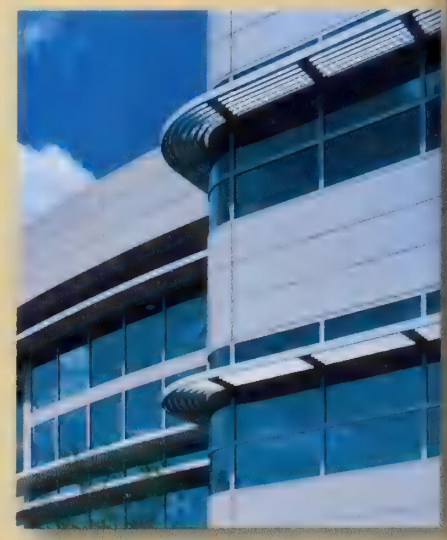
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San Diego draws largest crowd of any AIA convention



Moderator Robert Ivy, FAIA (far left), with (from left to right) Paul Goldberger, Hon. AIA, Stanton Eckstut, FAIA, Frances Halsband, FAIA, and Daniel Libeskind.

The 135th American Institute of Architects (AIA) national convention, with the theme Design Matters!, was held May 8–10 in San Diego and drew the largest crowd of any AIA convention. Approximately 8,000 architects were among the 20,025 who attended, nearly 5,000 more than last year's total. The record crowd was slightly larger than at the 2000 convention in Philadelphia.

After an impassioned presentation of his team's plan for the World Trade Center site, Daniel Libeskind received a sustained standing ovation from approximately 4,000 of his peers at the convention. Libeskind was on a theme presentation panel, moderated by Robert Ivy, FAIA, editor in chief of RECORD, about what Ivy called "the commission of the new century," the development at the World Trade Center site. Other panelists included Stanton Eckstut, FAIA, Frances Halsband, FAIA, and Paul Goldberger, Hon AIA.



Billie Tsien, AIA, and Tod Williams, FAIA

The panelists hailed strong public participation in the still-evolving design process as a positive force. Libeskind said his Memory Foundations plan would reconnect the Lower Manhattan site with the surrounding neighborhood and nearby Hudson River. His description of the replacement rail station, modeled on Grand Central Station, could apply to the whole plan: "Something uplifting, which is also practical."

"I consider my client not one agency, but the people of the world," Libeskind said. Explaining both his optimism and that which built New York City, he added, "Architects depend on the next breath of life."

At a separate theme presentation, New York architects Tod Williams, FAIA, and Billie Tsien, AIA, spoke of the emotion in their work

Tsien, a board member of the Lower Manhattan Development Corporation (LMDC), described her experience with the LMDC as "canoes pedaling in one direction while attached to an aircraft carrier going in another direction." When the nine schemes by architect teams were unveiled in December, Tsien said she "felt proud to be called an architect."

Williams and Tsien showed five of their recent projects. Tsien said they explore "architecture [that] is a slow experience, not immediately apparent but understood as you move through it."

Williams said they enjoy "finding wonder in the common." Tsien added that "the common can be elevated through the beauty of its use."

Steidl named president-elect

Convention delegates elected Douglas L. Steidl, FAIA, as the AIA 2004 first vice president/president-elect and 2005 AIA president. Currently the AIA national treasurer, Steidl is a founding principal of Braun & Steidl, of Akron and Columbus, Ohio.

Paul Davis Boney, FAIA, R.K. Stewart, FAIA, and David H. Watkins, FAIA, were elected as AIA vice presidents for 2004, and James A. Gatsch, FAIA, was elected treasurer for 2004–2005.

The next AIA convention will be in Chicago, June 10–12, 2004.

John E. Czarnecki, Assoc. AIA, with Ann Jarmusch

Neuroscientists and architects to study perceptions of place



John Eberhard, FAIA

The American Institute of Architects (AIA) is partnering with neuroscientists in what it hopes will be groundbreaking research on how the brain perceives the built environment. At the AIA convention, the AIA College of Fellows announced that the newly established Academy of Neuroscience for Architecture is the recipient of the biennial $100,000 Latrobe Fellowship grant. Led by John Eberhard, FAIA, a consultant to the AIA who is the institute's director of research planning, the new academy will collect and disseminate data to bridge neuroscience and architecture research.



Fred Gage, Ph.D.

The upstart academy, which began 18 months ago and was the Legacy Project for the San Diego convention, includes architects and prominent neuroscientists on its advisory board, including Fred Gage, Ph.D., of the Salk Institute for Biological Studies Laboratory of Genetics. Gage, calling for collaboration, gave a theme presentation about his research at the convention.

Visit www.neuroscienceforarchitecture.org for more information on this initiative. *J.E.C.*

OFF THE RECORD

Tokyo-based architects Kazuyo Sejima and Ryue Nishizawa of SANAA have won the competition to design a new home on the Bowery for New York City's New Museum of Contemporary Art. Their design for the $35 million building will be unveiled this fall.

Odile Henault resigned at the end of April after only 13 months as executive director of the Association of Collegiate Schools of Architecture. The new executive director of the American Institute of Architecture Students, Michael V Geary, CAE, began work in May.

Anthropologist and musician Christopher Waterman has been appointed dean of the UCLA School of the Arts and Architecture.

Citing a "dramatic difference between the budget for the project and the estimated cost," Carnegie Museums of Pittsburgh announced in May that French architect Jean Nouvel was being dropped from the commission to design a $90 million expansion of the Carnegie Science Center.

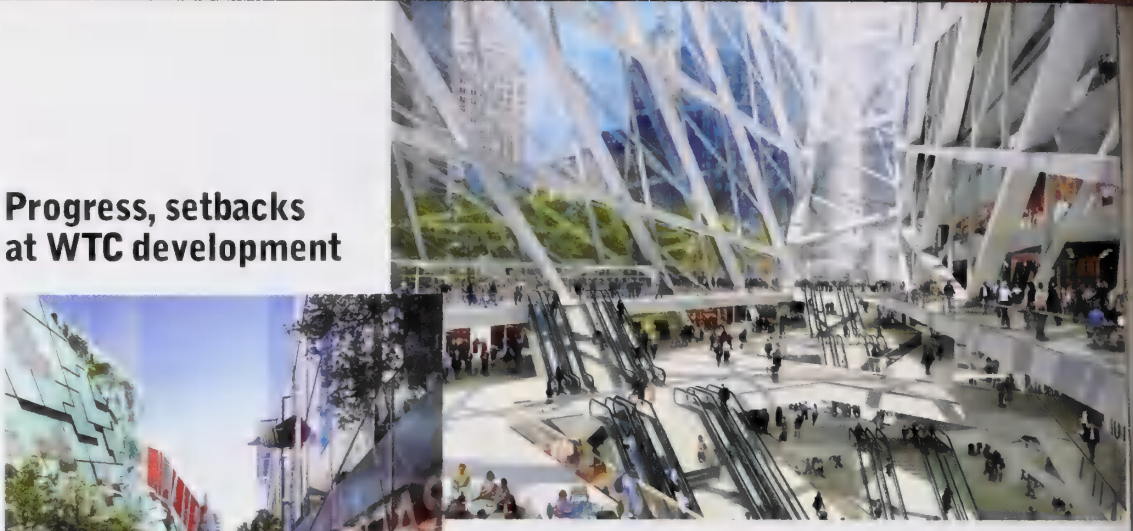
Bernard Zimmerman, FAIA, cofounder of the architecture department at Cal Poly Pomona, has received the USC Architectural Guild Distinguished Alumnus Award.

The Guggenheim Las Vegas, closed since December, is permanently shuttered and will now become a space for stage productions. Designed by Rem Koolhaas, it was open for little more than one year. A smaller Guggenheim Hermitage Museum remains open.

Chuck Davis, FAIA, a founding principal of San Francisco firm Esherick Homsey Dodge and Davis (EHDD Architecture), has won the AIA California Council's Bernard Maybeck Award.

Seattle landscape firm Jones & Jones will receive the inaugural ASLA Firm Award at the ASLA Annual Meeting.

Progress, setbacks at WTC development



Libeskind's Greenwich Street (left) and train station (above) drawings.

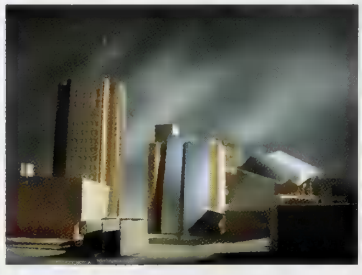
New York Governor George Pataki presented an aggressive timetable in late April for the redevelopment of the World Trade Center (WTC) site. At the same time, though, Alex Garvin, the vice president for planning, design, and development for the Lower Manhattan Development Corporation (LMDC), abruptly resigned. And Larry Silverstein, the leaseholder for the WTC office space, was signaling that he was unsatisfied with the plan by Daniel Libeskind (see new illustrations, above) and that he was refusing to abandon the plan Skidmore, Owings & Merrill developed for him.

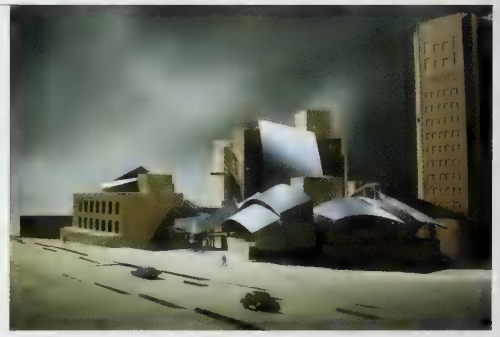
Pataki's time frame calls for completion of the permanent PATH commuter train station, Fulton Transit Center, and most of the structure for Libeskind's 1,776-foot tower by 2006. The tower would be completed by 2008. The governor also earmarked $50 million from the LMDC for short-term downtown improvements.

Garvin, the lead planner for the LMDC, resigned after 15 months on the job. *The New York Times* reported that Garvin "clashed" with other rebuilding officials, including Louis Tomson, who was the initial president of the LMDC. With their mentor's departure, two of Garvin's former Yale students moved up in position at the LMDC —Andrew Winters was named vice president and director of planning, design, and development, and Christopher Glaisek is also a vice president for planning, design, and development.

On May 20, the *Daily News* reported that Silverstein proposed adding a fifth tower to Libeskind's plan and narrowing the other buildings. *J.E.C. with David Sokol*

Library by Gehry will be heart of the sciences at Princeton University





Gehry's design for the science library at Princeton will have stainless-steel curving forms.

In what project designer Craig Webb, AIA, calls, "our own version of Collegiate Gothic," Gehry Partners, led by Frank Gehry, FAIA, has designed a new multidisciplinary science library for Princeton University. Supported by a $60 million grant from Princeton alum, trustee, and longtime Gehry patron Paul Lewis, the library will consolidate collections into a 100-foot sweeping tower.

With below-grade access to an existing math and physics library in adjacent Fine Hall and to the labs and classrooms in Gwathmey Seigel's 1998 McDonnel Hall, the 85,000-square-foot science library will be, Webb says, "the heart of the scattered science campus—a new kind of building combining access to information with public space."

The library's two low wings and tower mediate in scale between the 175-foot-tall Fine Hall and adjacent residences. Stainless-steel roof strips fold aside to accommodate glazing on the facade facing those residences. Webb says the references in the roof shapes, the scale of the geometries, and the visual texture of the facades all relate to other campus buildings. Small brick towers and rectilinear elements lock the building into the street grid and relate it to the dark brick that is traditional for many of Princeton's science buildings, particularly neighboring Gillot Hall. Construction is expected to begin in fall 2004, with an opening slated for spring 2007. *Thomas de Monchaux*



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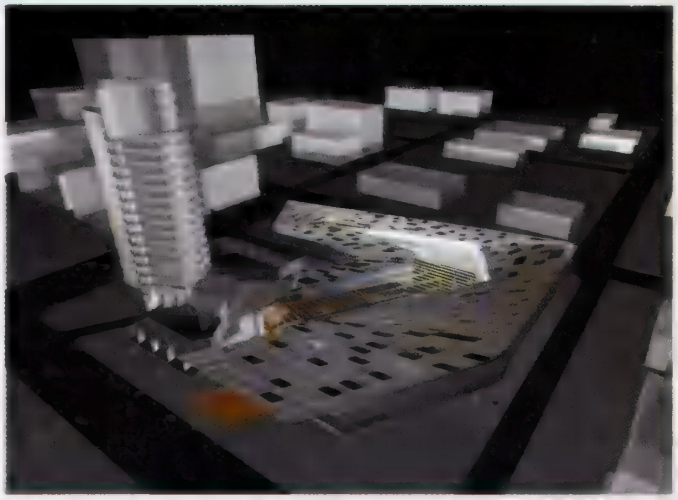
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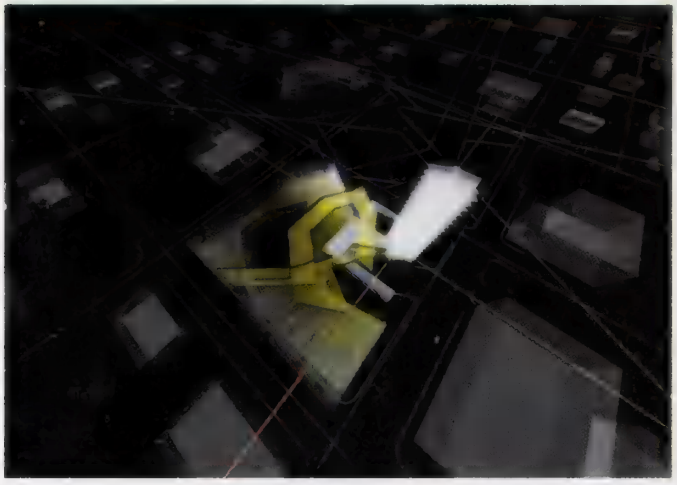
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Hadid's design (left, and in model below) for the Price Tower Arts Center is a low-lying "boomerang" shape.

Zaha Hadid develops design for museum adjacent to Wright's Price Tower

Zaha Hadid has unveiled preliminary designs for a new building for the Price Tower Arts Center in Bartlesviile, Oklahoma. The arts center, a museum of art, architecture, and design, will abut Frank Lloyd Wright's Price Tower, his tallest completed building. The Price Tower Arts Center, which is currently housed in the 1956 Wright tower, is Hadid's second commission in the United States after the Rosenthal Contemporary Arts Center in Cincinnati, which opened earlier this month.



The new facility will give the museum 58,000 square feet of gallery space and areas for support services. According to Hadid, the center's design was determined in part by the geometry of the Price Tower itself, as well as by downtown Bartlesville's strict street grid and nearby buildings, including a performing arts center and a library. She devised the form by overlaying triangular shapes from the Price Tower, Bartlesville's street grid, and a map of projected pedestrian movement through the site. The low-lying building's shape is described as a "boomerang" that extends to the perimeter of the Price Tower's city block and connects to the tower at its base via an unarticulated rear wall.

The museum will share a new plaza to its south with the performing arts center. The plaza will serve as the pedestrian approach to the museum. In the building's glass-roofed lobby, ramps lead visitors down to a theater, classrooms, and offices, or up to the three gallery spaces. One of two 5,000-square-foot galleries will be devoted to the museum's permanent collection, and the other will house temporary exhibitions. A third 2,000-square-foot gallery will be used for either permanent or temporary exhibitions.

A walkway on the second floor passes over the lobby to the arts center's architectural research facility, which will occupy the area between the boomerang of the new museum and the Price Tower. A window in the study center will look directly into the adjacent double-height gallery of the tower.

Hadid won the commission for the Price Tower Arts Center in an international search conducted in 2001 and 2002. She was selected from a shortlist that also included Rem Koolhaas and Antoine Predock, FAIA. The design is in an exhibition called *Zaha Hadid*, which will run at New York's Artists Space gallery from June 4 to July 26. *Kevin Lerner*

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Garofalo's temporary installation graces Chicago MCA stairs

German architect Josef Paul Kleihues made his American debut with the opening of Chicago's Museum of Contemporary Art (MCA) in 1997. Most visitors and critics have found Kleihues's rigidly organized, cast aluminum panel structure a cold and overbearing interpretation of the city's earlier champion of the orthogonal, Mies van der Rohe.

A temporary installation, *Between the Museum and the City*, that uses Kleihues's front plaza as an experimental canvas for architectural investigation opened earlier this month. In the spirit of the annual MoMA/P.S.1 Young Architects Program (see story, page 34), which invites a young architect to design an installation for New York's P.S.1 courtyard, the MCA asked Chicago architect Doug Garofalo, FAIA, to enliven the entrance to its building. The $40,000 installation populates the barren plaza with a series of canted pavilionlike steel structures, curved pre-cast-concrete benches, and four wooden decks.

The installation is conceived as a collage of elements suggesting a weaving with Kleihues's rigid grid. Garofalo's geometries are carefully calculated to work with existing diagonal pedestrian patterns across the plaza and will allow a weekly farmer's market to continue. "We animate the space by defining areas through the strategic placement of our elements," Garofalo says.

For all its apparent elaborateness, Garofalo has developed a very simple kit of parts. All structural elements are standard galvanized steel uni-strut members connected by two custom fabricated joints that allow for each of the unique angles of the design to be field-installed. The concrete "benches" weigh 3,000 pounds each and permit the entire ensemble to sit on the site without needing any permanent anchors.

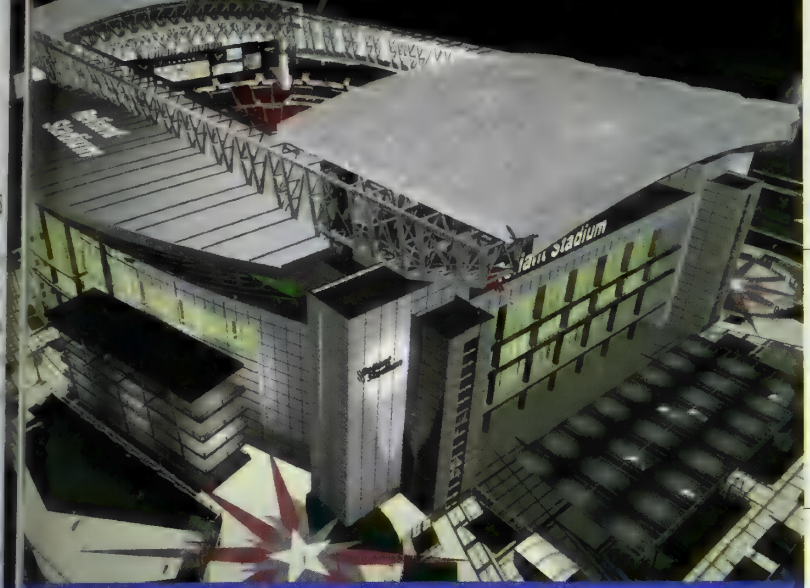
Constructed with the help of graduate architecture students from the University of Illinois at Chicago, who also developed details and researched materials, the installation remains in place through October. *Edward Keegan*





The MCA installation includes wooden decks (above) and a series of canted pavilionlike steel structures (right and below).







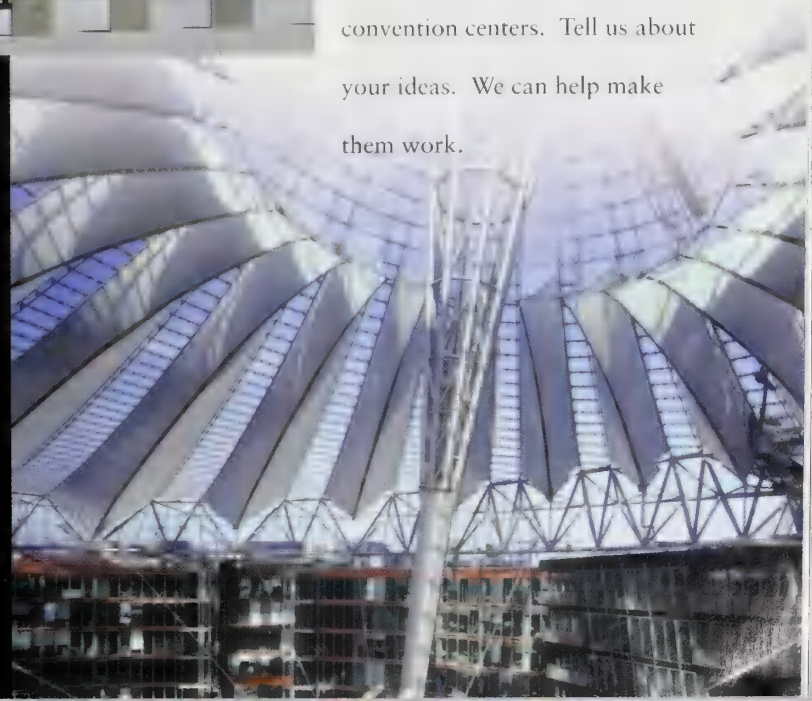


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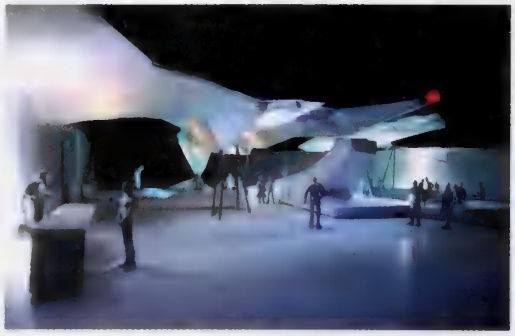


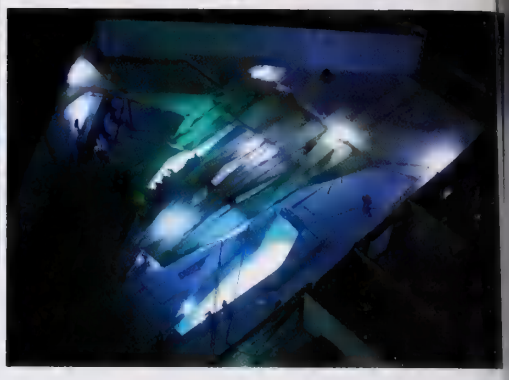
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Wiscombe's installation includes membrane roofs connected to metal supports (left and below).

Wiscombe wins MoMA/P.S.1 Young Architects Program

Tom Wiscombe, a Los Angeles and Vienna–based architect, has won the fourth annual MoMA/P.S.1 Young Architects Program. The competition invites architects to design and build an "urban beach" in the courtyard of P.S.1, a museum of contemporary art in Long Island City, New York. The installation will open June 29 and will be dismantled after the conclusion of P.S.1's annual summer concert series.

Wiscombe's design will shade the courtyard during the day with a 2,500-square-foot tensile fabric or membrane roof (the material had not been selected at press time), which will stretch in sections between aluminum and steel supports. "We looked at projects that had been done in previous years," Wiscombe said, "and we thought that there's never been enough shade." Lighting will be installed to make the translucent fabric structure glow in the evening.

A "leisure landscape" made of latex-sealed plywood will offer places to sit or lie down and will also form two long pools of water for wading.

P.S.1 allows a $60,000 construction budget for the project, which Wiscombe and a team of volunteers began building in May. Some of the builders come from the New York area, but Wiscombe also imported some of the crew. "I brought over some people from Europe," he said, "including a couple of Swiss shipbuilders I know."

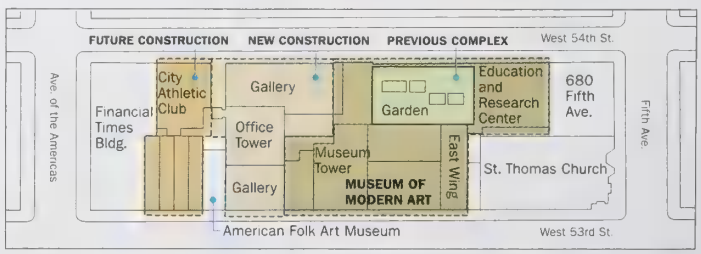
Visit www.archrecord.com/archrecord2 to view Wiscombe's profile in RECORD [May 2002, page 81]. *Kevin Lerner*

MoMA's expansion costs increase as it acquires more land

The New York Times reported in May that the budget for the expansion of New York's Museum of Modern Art (MoMA) by Yoshio Taniguchi has increased beyond its original $806 million estimate to $858 million. MoMA, which has raised approximately $600 million for the project and is closed in Manhattan during the construction process, is scheduled to reopen in late 2004–early 2005.

A spokesperson for MoMA would not itemize the total construction cost but told RECORD that change orders account for little of the overrun. Rather, construction insurance costs have tripled since the terrorist attacks of September 11. Mold prevention has also boosted expenses. Additional heating, at a cost of $4 million, has been implemented to preclude mold from growing in the museum's old buildings.

Land acquisition has contributed to budget overruns. Since site preparation on the expansion began, MoMA purchased a vacant lot immediately west of the American Folk Art Museum on 53rd Street, and the seven-story City Athletic Club on 54th Street. The museum also purchased a 60,000-square-foot vitamin factory adjacent to its Michael Maltzan–designed temporary exhibition facility, MoMA QNS in Queens, New York. The acquired sites, purchased for $23.5 million in total, are reserved for future expansion projects. *David Sokol*



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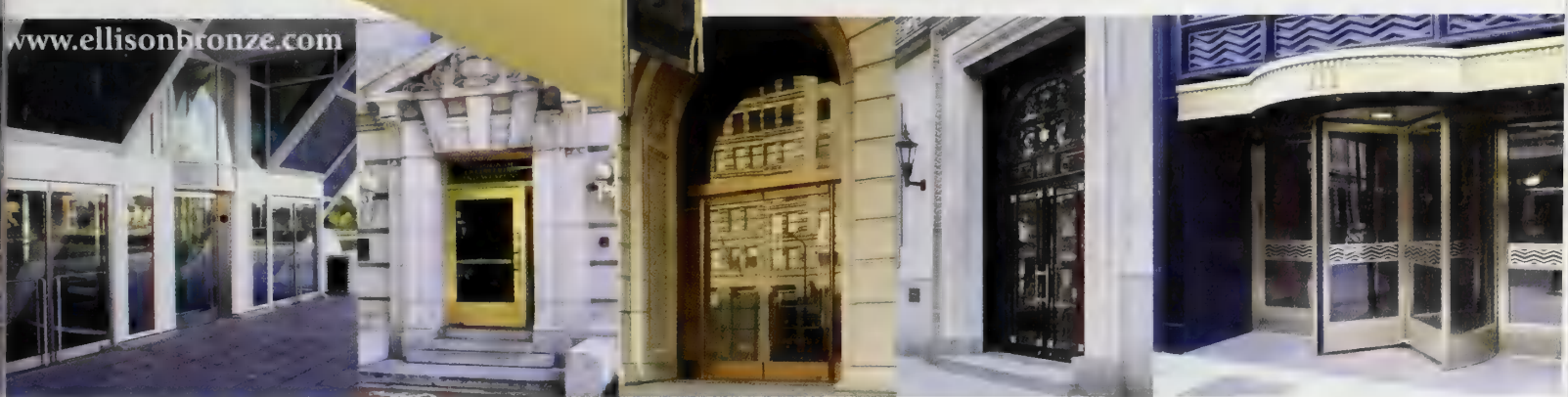
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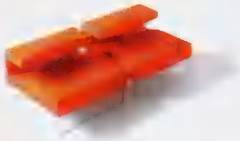
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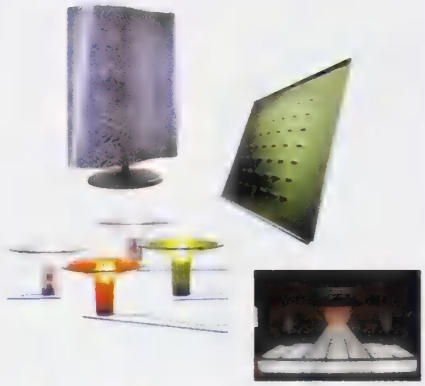
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Record News

Washington Monument entrance gets preliminary approval



The planned Washington Monument visitors' lodge addition.

The National Capital Planning Commission (NCPC) has granted preliminary approval for an addition to the Washington Monument visitors' lodge, designed by Hartman-Cox Architects. The addition would house X-ray machines and magnetometers for security screening, replacing a temporary aboveground structure. The NCPC had rejected previous designs as too large.

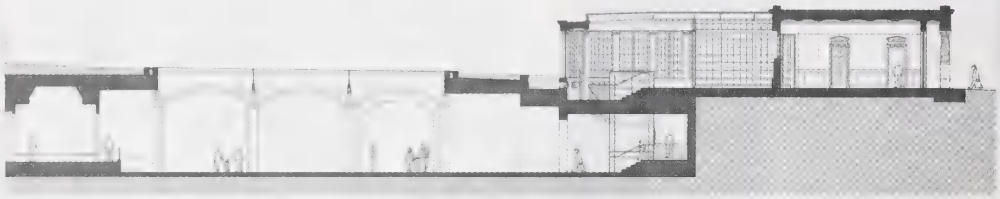
As part of a plan to prevent acts of terrorism against the monument, the addition will also provide the only public access to the monument's interior. Upon passing through the security screening area, visitors would descend to a visitors' center below grade (see section, below) and a skylit underground tunnel to the monument.

Hartman-Cox senior partner Warren Cox, FAIA, says, "The whole thing is set up so that no one who is a threat can get very far—they're encapsulated."

The project faces opposition from Mall advocates who argue that it will prevent visitors from entering the monument at grade, as they have done historically.

Sally Blumenthal, deputy associate regional director of the National Park Service, responds, "We want to protect the monument and make it available to the public. If the only aesthetic and secure way to do it is to enter through a concourse, we believe that's the right thing to do."

Hartman-Cox was chosen with the Olin Partnership in December 2001 to redesign the Washington Monument to eliminate ad hoc security measures, such as jersey barriers. NCPC executive director Patricia Gallagher calls the scheme "a very subtle approach to incorporating security features." *D.S.*



CNU announces annual Charter Award winners

The Congress for the New Urbanism (CNU) has announced its Charter Award winners for 2003. The Charter Awards celebrate the best in urban design and will be given at the 11th Congress for the New Urbanism conference, to be held in Washington, D.C., June 19 to 22.

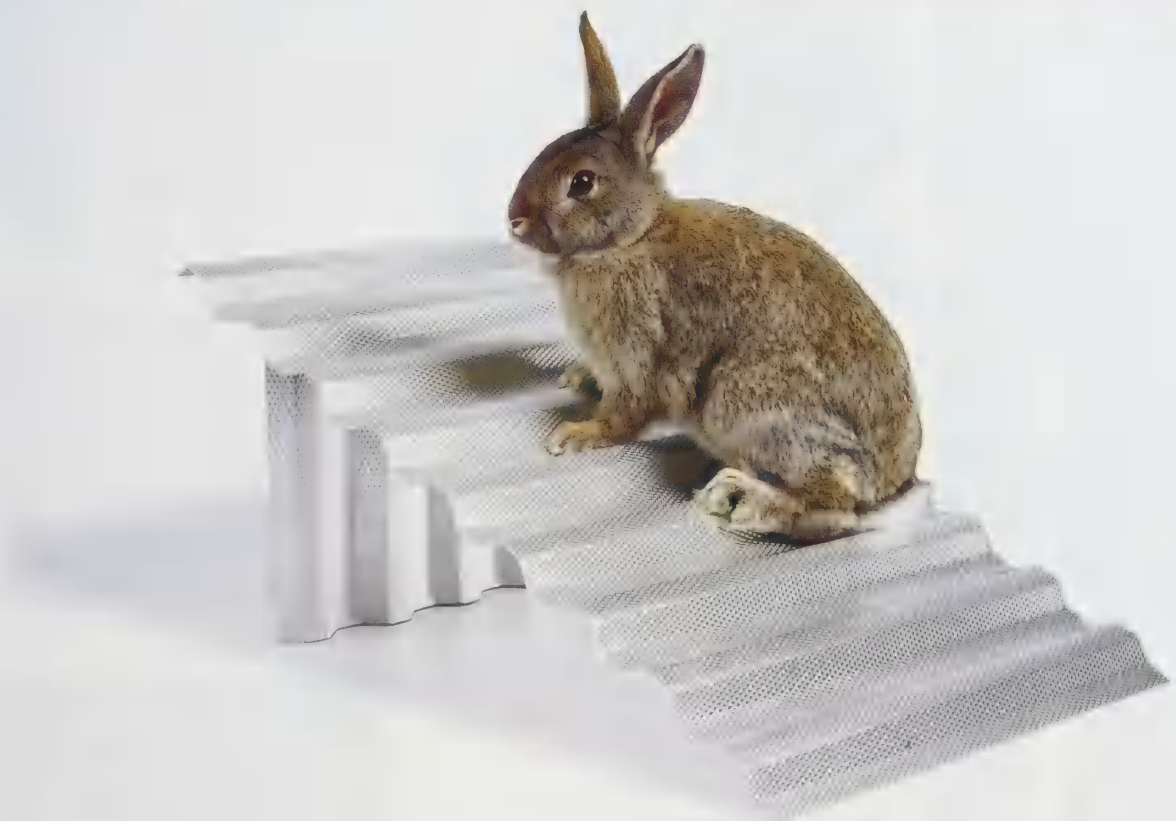
Architects or sponsoring agencies for the winning projects are Goody, Clancy & Associates; Glatting Jackson Kercher Anglin Lopez Rhinehart; Design Community & Environment and The Association of Bay Area Governments; Moule & Polyzoides Architects and Urbanists; Civitas; Urban Design Associates; Tunnell-Spangler-Walsh; Looney Ricks Kiss Architects; Design Workshop; Planning & Design Institute; Kelley-Markham Architecture and Planning; Duany Plater-Zyberk & Company; RNL Design; and Stanton Development Group. Design Workshop was honored for The Commons (pictured here) in Denver. Moule & Polyzoides Architects and Urbanists won two awards—for the Del Mar Station Transit Village in Pasadena, California, and the Dona Ana Plaza Revitalization in Dona Ana, New Mexico.



Winners were selected from 169 entries from more than 100 firms. For more information on the winning projects, visit www.cnu.org. *J.E.C.*

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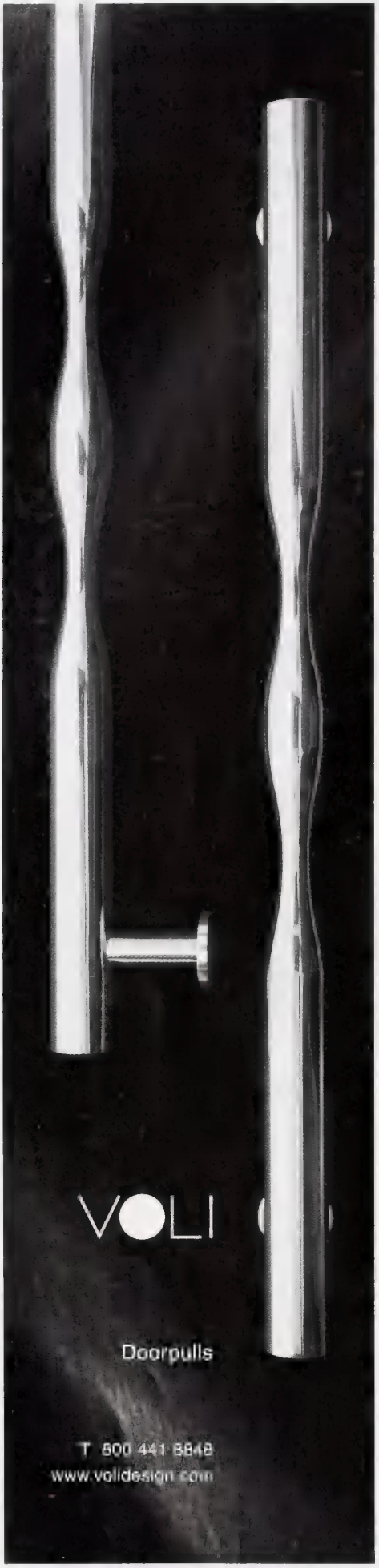
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Predock wins competition for Indian school near Milwaukee



Predock's renderings of the school (above and left) are inspired by the rural Wisconsin landscape.

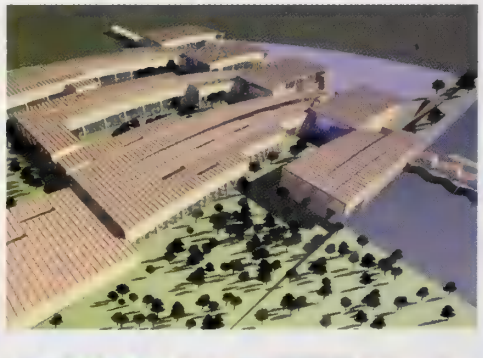
Antoine Predock, FAIA, has been selected in an invited competition to design a new 4K-12 school in suburban Milwaukee for an American Indian community. Predock won the commission against two other finalists: Valerio Dewalt Train of Chicago and Leonard Parker Associates of Minneapolis.

The client, the Indian Community School of Milwaukee, acquired a 142-acre site—a former farm that includes wetlands and small areas of preserved forest—for its new campus and had a unique request for the three invited firms. The architects were asked to develop renderings of eight specific spaces for the 200,000-square-foot school. The eight requested views were: (1) exterior of the building including the main entrance, (2) exterior of the classroom wing(s) or area, (3) interior of the main entrance, (4) interior of a classroom, (5) interior of a primary hallway, (6) interior of the dining hall, (7) interior of the theater, and (8) interior of the boardroom or conference room.

According to Predock's office, the school's board of directors wanted drawings that were highly accessible, showing detail, materials, and atmosphere, because none of the board members are in the design or construction industry. Predock emphasized that the renderings (above) are conceptual and do not necessarily imply what the built structure will ultimately look like.

The school's program and curriculum will differ in many ways from a typical public school. Class sizes will be held to 12 to 15 students, with a teacher and an aid assigned to each classroom. Large public spaces in the school are intended for community use, not just students, with a theater for 800 people and a dining hall that can seat 1,000.

The Milwaukee office of Hammel, Green and Abrahamson, with James Vander Heiden, AIA, as principal in charge, is the executive architect and architect of record working with Predock. *J.E.C.*





Finalist renderings by Valerio Dewalt Train (top) and Leonard Parker Associates (above).



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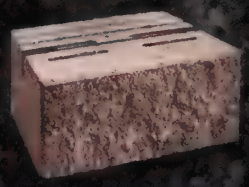
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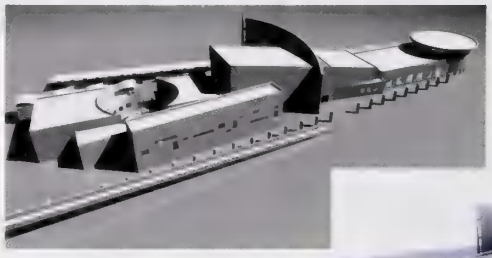
Portland office to aim for LEED Gold rating Portland, Oregon–based BOORA Architects has designed what it claims will be the first speculative office building to earn a Gold LEED rating from the U.S. Green Building Council. Tentatively set for ground breaking later this year, One Waterfront Place is a $36.5 million, 12-story, 235,000-square-foot speculative office. Its north-facing glass facade will have striped aluminum panels, and sunshades will shield the south elevation. Other green features will include daylighting, operable windows, raised access floors, and highly efficient HVAC and lighting systems.



Portland spec office building will apply for LEED Gold.

One Waterfront Place will be adjacent to downtown Portland and the burgeoning Pearl District. According to developer Jim Winkler, the project's green features will attract a premium in Portland's competitive commercial real estate market. *Brian Libby*

Helix Architecture to design theater Helix Architecture has been selected to design the Children's Theater of Salt Lake in Salt Lake City. The 30,000-square-foot building includes a 450-seat auditorium, 100-seat black-box theater, an acting school for 100 students, as well as a 200-seat outdoor amphitheater for city-sponsored summer performances within an enclosed courtyard. Helix project designer Alex Protasevich, AIA, says the theater exterior was conceived as a sequence of unfolding film frames; the building exterior is a series of shifting rectilinear and cylindrical volumes. The Tacoma, Washington–based firm was selected for the project in an invited competition in 2001. Construction, which is expected to cost $5 million, will begin in early 2004.



Children's Theater fans outward toward an enclosed amphitheater.

Whitney cancels Koolhaas-designed expansion Just as it had cancelled a 134,000-square-foot, Michael Graves–designed expansion in 1985, in April the Whitney Museum of American Art on Manhattan's Upper East Side announced that it would not build an expansion designed by Rem Koolhaas.

The Whitney hired Koolhaas in February 2001, and the Rotterdam-based architect had presented two schemes for expanding the space-strapped museum. In one proposal, Koolhaas designed an 11-story building to connect to the museum's main building and to adjacent brownstones converted into galleries. A second scheme called for demolishing the brownstones and replacing them with a nine-story building. In both plans, the original museum, designed by Marcel Breuer, would have remained untouched. Sources estimate that the second design, considered to be the less expensive, would have cost as much as $200 million. Maxwell Anderson, a champion of the proposed expansion, resigned in May after five years as Whitney Museum director.

Rome Prize winners named In April, the American Academy in Rome announced the winners of the 2003–2004 Rome Prize Competition. Thirty-one prize recipients represent 11 fields of study. In architecture, winners include J. Yolande Daniels, a partner in SUMO; Polshek Partnership Architects partner Richard M. Olcott, FAIA; and Linda Pollak, principal of Marpillero Pollak Architects. Arizona State University Associate Professor Reed Kroloff and design historian Susan Yelavich are the Rome Prize winners in design. Charles A. Birnbaum, coordinator of the National Park Service's Historic Landscape Initiative, won the Rome Prize for historic preservation and conservation, as did Studio TKM director T.K. McClintock. Landscape architecture winners include designer Cheryl Barton, aerial photographer Alex S. MacLean, and California Polytechnic State University professor Joseph Ragsdale.

The lay of the land is nothing more than a starting point.

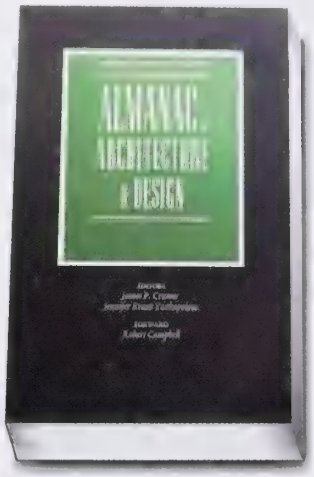


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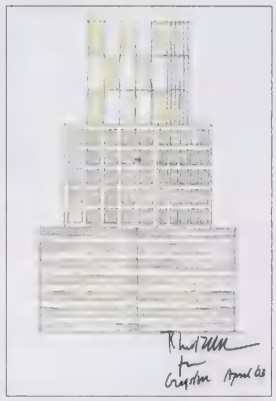
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News Briefs

University of Arizona holds on to design departments After being threatened with closure in mid-January, the University of Arizona announced in April that it will retain its departments of landscape architecture and planning. The school's president and provost had originally proposed eliminating the two programs due to budget cuts. But a strong, negative public response, as well as lobbying from groups that included the Arizona chapter of the American Society of Landscape Architects, compelled university officials to reverse the decision. Instead, the officials have now chosen to transfer the planning department to the College of Public Health from the College of Architecture, Planning, and Landscape Architecture. *K.L.*

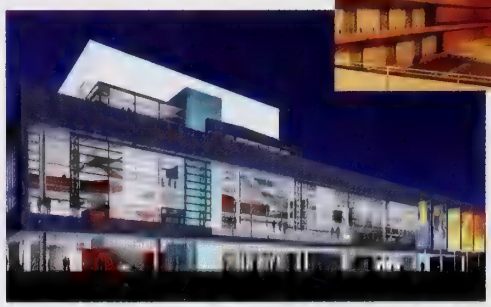


Cake by Robert A.M. Stern.

Omaha Performing Arts Center construction begins To coincide with the April 30 ground breaking for the new Omaha Performing Arts Center, officials from the Omaha Performing Arts Society unveiled the design of the building, now under construction. The $90 million project is scheduled to be completed in fall 2005.

Designed by Polshek Partnership Architects, with Omaha-based architecture and engineering firm HDR, the performing arts center will house a 2,000-seat concert hall, 450-seat chamber music hall, and a semienclosed outdoor performance space and event garden.

The new facility's glazed street-level lobby is built to the edges of the site in order to reinforce pedestrian use between buildings. Inside, visitors ascend a staircase overlooking the terraced outdoor performance space and garden to arrive in a piano nobile main lobby. The exterior of this raised main level is glazed with zinc sheathing. The concert hall, a separate stone-clad volume, is within this volume. The design's elevated lobby as well as the concert hall's clerestory windows directly reference Vienna's Musikverein Hall.



Omaha Performing Arts Center (above and right).

Cakes for a cause At the invitation of Maya Lin, a number of prominent architects are designing cakes for charity. The Greyston Foundation is opening its new Lin-designed bakery this month on a Hudson River–waterfront reclaimed brownfield in Yonkers, New York. The bakery, which produces gourmet cakes and tarts and provides approximately three million pounds of baked ingredients annually to Ben & Jerry's and other large-order customers, trains and provides jobs for formerly homeless people.

Lin, who is also designing a cake, has asked Steven Holl, Richard Meier, David Rockwell, Robert A.M. Stern, Billie Tsien and Tod Williams, Frank Gehry, and Rafael Viñoly to develop cake designs that will be auctioned off and later baked for the winning bidders. Contact the Greyston Foundation, 914/376-3900 x 276, for more information on bidding. *Jane F. Kolleeny*

Experience Music Project welcomes science fiction *Star Trek* paraphernalia and space suits will be just some of the objects on display in *Science Fiction Experience*, a new $20 million exhibition to open in summer 2004 at Seattle's Experience Music Project (EMP). The show is the brainchild of EMP founder and Microsoft cofounder Paul Allen, whose collection of Jimi Hendrix and other rock 'n' roll mementos inspired the creation of EMP.

The new show will occupy 13,000 square feet on three levels of the Frank Gehry–designed museum. A new multipurpose mezzanine, designed expressly for the exhibition, will include performance space that expands the building by 1,000 square feet. EMP has had declining attendance since opening in 2000, and it expects *Science Fiction Experience*, which replaces the *Artist's Journey* exhibition, to attract an additional 150,000 to 200,000 visitors annually. *News Briefs by David Sokol unless otherwise noted.*

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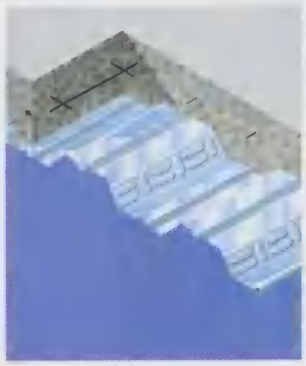
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At the invitation of designer Maya Lin, some of the country's most prominent architects, artists, and designers have turned their fine hands to designing cakes. The cake renderings, created by such talented individuals as Frank Gehry, Ed Koren, Tom Otterness, and Rafael Viñoly, will go on view and be auctioned off to benefit the Greyston Bakery and Foundation. At the Jan Abrams Gallery. For more information, call Greyston Foundation at 914/376-3900, x 276.

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A show of 20 exploratory artifacts by Dallas-area architects will be on view. Operating along the border between imagination and reality, these miniature depictions will represent a spectrum of building types and express the pleasure and importance of making things while thinking. At the McKinney Avenue Contemporary (the MAC). Call 214/953-1212 for more information.

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a world of hallucinatory, visionary, utopian, and otherwise "fantastic" ideas. At the Massachusetts Museum of Contemporary Art. Call 413/662-2111 or visit www.massmoca.org.

National Design Triennial 2003: Inside Design Now
New York City
April 22–January 25, 2003
The Triennial is a review of cutting-edge trends and future horizons in the fields of design practice, from architecture, interiors, and landscape design to product design, graphic design, fashion, and new media. The exhibition details the work of emerging designers operating at the most innovative and provocative level in design today, including the work of 80 designers with specially commissioned installations. At the Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.si.edu/ndm.

Design Berlin! New Projects for a Changing City
Berlin
May 2–June 22, 2003
The Vitra Design Museum exhibition introduces the most innovative young designers and architects in Berlin with this presentation of their most important projects, including furniture, product design, and architecture. At the Vitra Design Museum Berlin. Call 49 30 47 37 77 12 or visit www.design-museum-berlin.de.

International Architecture Biennale Rotterdam
Rotterdam, the Netherlands
May 7–July 7, 2003
"Mobility" is the theme of the event, the first architecture biennial exhibition to be held in the Netherlands. Curated by Francine Houben, the exhibition will examine how architects, traffic engineers, city planners, landscape architects, artists, filmmakers, and photographers can provide a new perspective on mobility in relation to everyday human experience. For information, visit www.1ab-rotterdam.nl, call 31 10 4401331, or send e-mail to info@1ab.nl.

Tea and Coffee Towers
New York City
May 8–June 28, 2003
Architects' Tea and Coffee Towers features designs by Will Alsop, Weil Arets, Juan Navarro Baldeweg, Gary Chang, David Chipperfield, Denton Corker Marshall, Deszo Ekler, Massimiliano Fuksas and Doriana O. Mandrelli, Future Systems, Zaha Hadid, Toyo Ito, Tom Kovac, Greg Lynn FORM, Alessandro Mendini, Morphosis, MVRDV, Jean Nouvel, Dominique Perrault, Kazuyo Sejima & Ryue Nishizawa/SANAA, and UN Studio. At Max Protetch Gallery. Call 212/633-6999 or visit www.maxprotetch.com.

The HOME House Project
Winston Salem, N.C.
May 10–July 6, 2003
The multiyear HOME House Project initiative, the future of affordable housing, begins with an exhibition of more than 450 proposals from artists and architects from the U.S., the Netherlands, Spain, England, Russia, Italy, and Canada. These sustainable designs for low- and moderate-income family houses are using Habitat for Humanities basic three- and four-bedroom house as a point of departure. At the Southeastern Center for Contemporary Art. Call 336/725-1904 or visit www.seca.org.

Traces of India: Changing Views of the Monuments of a Subcontinent
Montreal
May 15–September 14, 2003
The exhibition will present more than 200 master



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photographs taken by travelers, military surveyors, and professional studios within the context of the British colonial era, exploring some of the greatest architectural sites of the Indian subcontinent. At the Canadian Centre for Architecture. Call 514/939-7000 or visit www.cca.qc.ca for further information.

Luxury Textiles East and West
Los Angeles
Through August 15, 2004
Commemorating the 50th anniversary of LACMA's Department of Costume and Textiles, this exhibition highlights extraordinary examples of the textile arts of America, Asia, and Europe from the department's extensive holdings. At the Los Angeles County Museum of Art. Call 323/857-6000 or visit www.lacma.org for more information.

Pere Noguera: Lands
Barcelona
Through August 31, 2003
A poetic reflection on the design of elements of earth used in architecture, in the home, for domestic utensils, for furniture, decoration, the garden, and everything that surrounds us. At the Ceramics Museum, as part of the Year of Design 2003. Visit www.designyear2003.org for further information.

Conferences, Symposia, Lectures

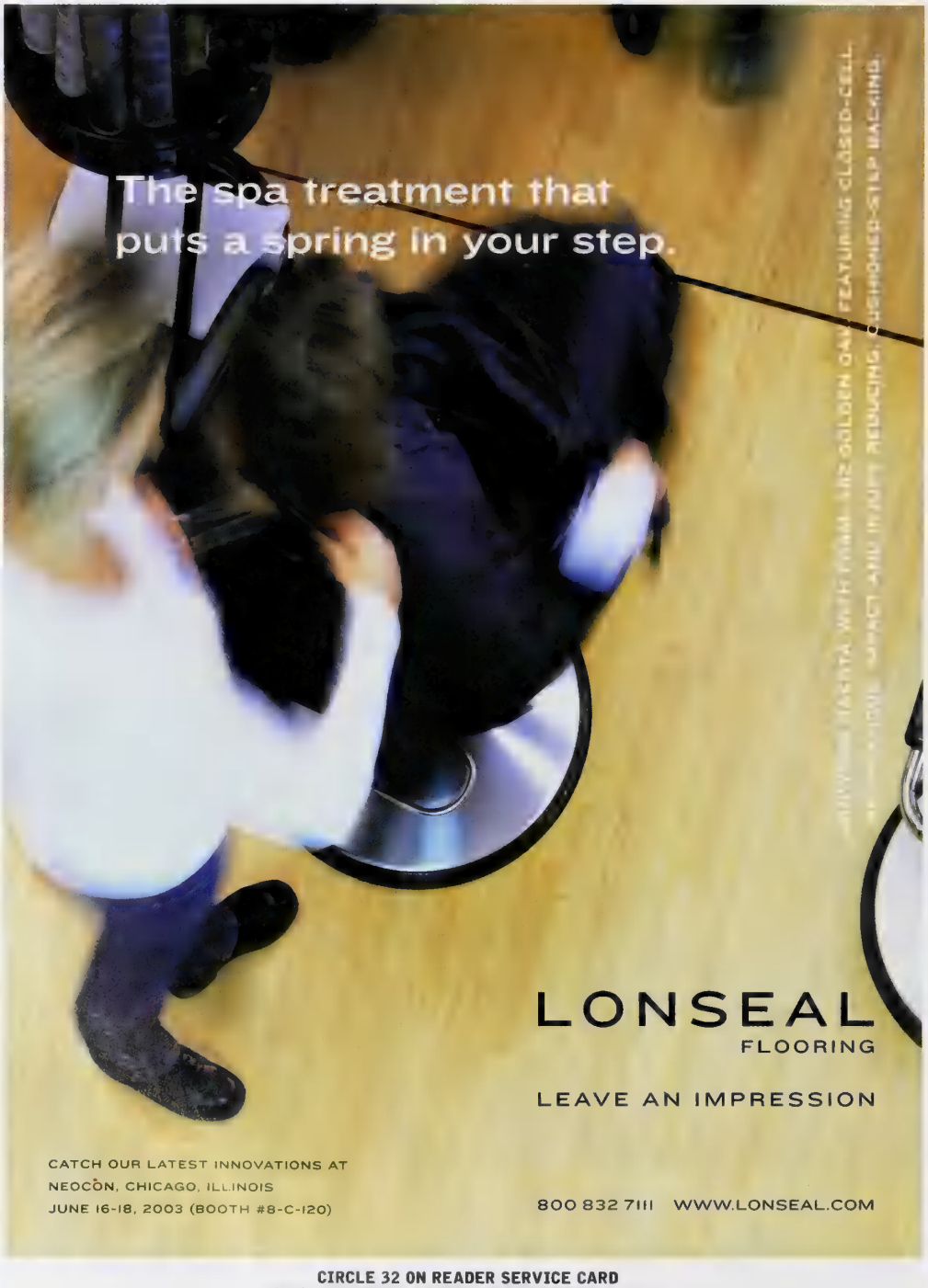
The 8th Guangzhou International Illumination Exhibition
Guangzhou, China
June 11–14, 2003
This event is held annually and is well known as the largest and most successful lighting fair in China, with 1,000 exhibitors of lighting. At the Chinese Export Commodities Fairground. Call 86-20/825-784-98 or visit www.illuminationchina.com.

37th International Making Cities Livable Conference
Siena, Italy
June 15–19, 2003
Call for papers deadline: April 15
An international conference for architects, urban designers, landscape architects, city officials, planners, historic preservationists, and social scientists, where practitioners and academics from around the world share ideas and establish working relationships. For more information, call 831/626-9080 or visit www.livablecities.org.

Architecture in the Garden
Washington, D.C.
June 16, 2003
James van Sweden, FASLA, principal of Oehme, van Sweden Associates, will show his work and discuss the importance of paths, walls, gates, and fences to the overall success of a well-designed garden. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Strategies for Sustainable Development
Washington, D.C.
June 17, 2003
Proceeding from vernacular traditions to the latest developments in the field, such as the Leadership in Energy and Environment Design (LEED) rating system, Raj Barr-Kumar, FAIA, RIBA, principal of Barr-Kumar Architects Engineers PC and former national president of The American Institute of Architects, maps a strategic approach to sustainable development. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

New Arguments for New Urbanism
Washington, D.C.
June 19, 2003

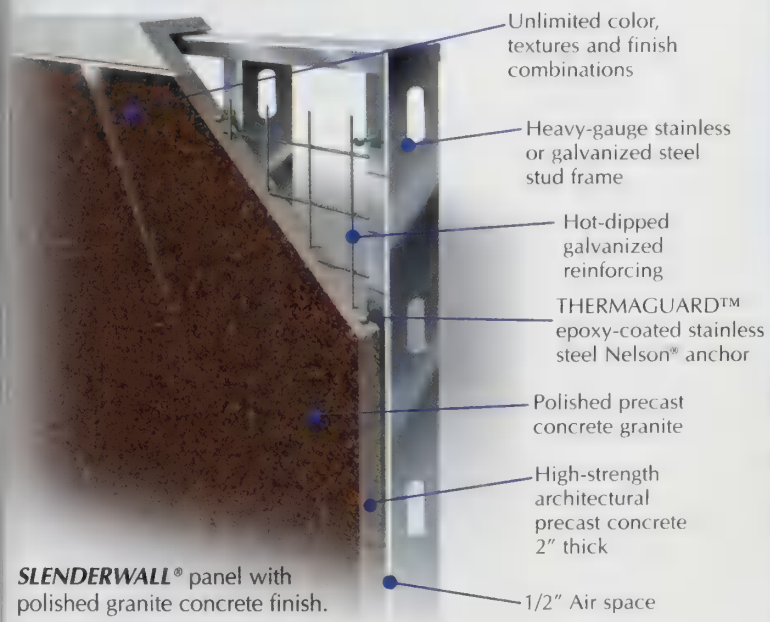


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Dates & Events

Richard J. Jackson, M.D., director of the National Center for Environmental Health at the Centers for Disease Control and Prevention, will present scientific data showing how sprawl impairs physical, mental, and environmental health. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

The Congress of International Modern Architects Modern Architecture Walking Tour
New York City
June 22, 2003
CIMA is a not-for-profit organization dedicated to educating new generations about the ever-relevant principles of modern architecture and design. Tour #3 will be led by Arthur Marks, a tour guide in N.Y.C. for over 40 years. He will show Modern Architecture in New York, Midtown south of Central Park. Visit www.cimarchitects.org or call 212/777-7997.

Paving Our Way to Water Shortages
Washington, D.C.
June 25, 2003
A discussion of how sprawl exacerbates water supply problems in many communities. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

International Design Conference In Aspen (IDCA)
Aspen, Colo.
August 20–23, 2003
Held each summer since 1951, IDCA presents a vital and authoritative forum on design for professional designers, students, critics, and thinkers. This year's program theme is "Safe: Design Takes On Risk." Visit www.idca.org or call 970/925-2257.

Competitions and Awards

Affordable Housing:
Designing an American Asset
Washington, D.C.
Deadline: June 30, 2003
The National Building Museum solicits entries of well-designed subsidized housing projects for possible inclusion in an exhibition about affordable housing. Call 202/272-2448 or visit www.nbm.org.

The National Sunroom Association 2003 Design Awards Contest
Topeka, Kansas
Deadline: June 30, 2003
The Design Awards Contest recognizes and rewards exceptional sunroom design that enhances the beauty of a home or commercial building while considering the energy efficiencies of the sunroom. For information, call 785/271-0208 or visit www.nationalsunroom.org.

12th Ermanno Piano Scholarship
Paris
Submission deadline: June 30, 2003
The Ermanno Piano Scholarship has been created for newly graduated architects to give them the opportunity to improve their education through a six-month internship with the Renzo Piano Building Workshop. For further information, call 01 44 61 49 00 or visit www.rpbw.com.

The 2003 International Student Design Competition for an Ecohouse
Deadline: July 1, 2003
The challenge is to design an Ecohouse for your own hometown. The competition is open to a student or group of students in a school of architecture anywhere in the world. For more information, visit www.ArchitecturalPress.com.

E-mail information about events and competitions two months prior to the event date or deadline to ingrid_whitehead@mcgraw-hill.com.



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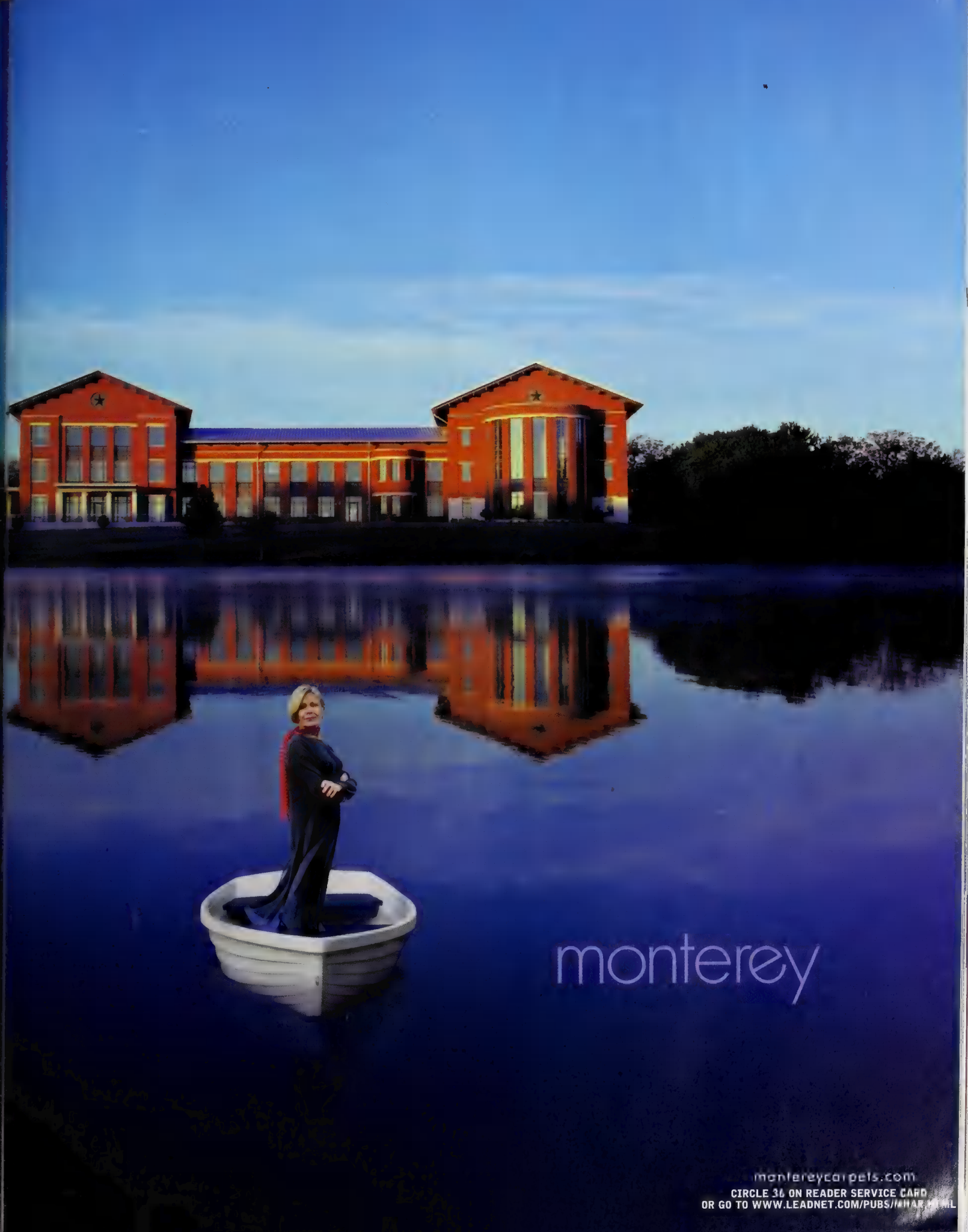
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For and about the new generation of architects

archrecord2

FOR THE EMERGING ARCHITECT

It seems these days that architecture intersects with the digital world more and more. This month, archrecord2 investigates those intersections in two stories. First, in Design, Eric Liftin of Mesh Architectures attempts to find ways to connect buildings and cyberspace. In Live, Ray Bennett, an architect from Dallas, uses his computer to give visible form to his hobby, music. And, of course, you can go to our Web site later and discuss what you read in the Talk forums.

DESIGN

A man with his head on the Web

Eric Liftin lives in two worlds—the physical and the virtual—but he's doing his best to prove that those two worlds are the same, or at least that they're compatible, overlapping, and complementary. And as much as possible, Liftin occupies both of them at the same time, rather than flipping back and forth between them. In fact, if you go to the Web site of the firm he founded, Mesh Architectures (www.mesh-arc.com), and he's sitting at his computer, you'll see a Web-cam picture of the top of his head and the office behind him.

Liftin founded Mesh in 1997 to explore connections between architecture and Web design. He had done both and decided that he didn't have to choose between the two disciplines. In fact, as he saw it, they had much in common. He seeks to convey in the sites he designs "a real sense of occupying the site, based on how you manipulate it and on the navigation.

"A lot of Web sites are about graphic design and identity, but I'm much more interested in real spatial experience," he says. "I'm convinced that we're really teaching ourselves how to live in this virtual world—not as you imagine from the movies, where we're little avatars walking around and going into a virtual coffee shop—but more in a sense of being able to project our consciousness onto the screen and imagine that we're somewhere else, even when what's on the screen is fairly crude in its depiction."

Liftin teaches a course in New York University's Interactive Telecommunications Program that asks students to imagine an online extension to an existing physical space that would both change the space and be changed by it. He uses the example of a "digital front porch." In a small town or a suburb, he says, people can participate in public life by sitting on their front porch, where passersby can walk up and ask them how they are. Liftin's analogue in the city would be a part of an apartment that would have some simple digital tools: a camera and a computer. "When you're in that spot, you're available," Liftin says. "You can be watching TV, reading, whatever, but people know you're there. By designating a spot, you've changed that space.

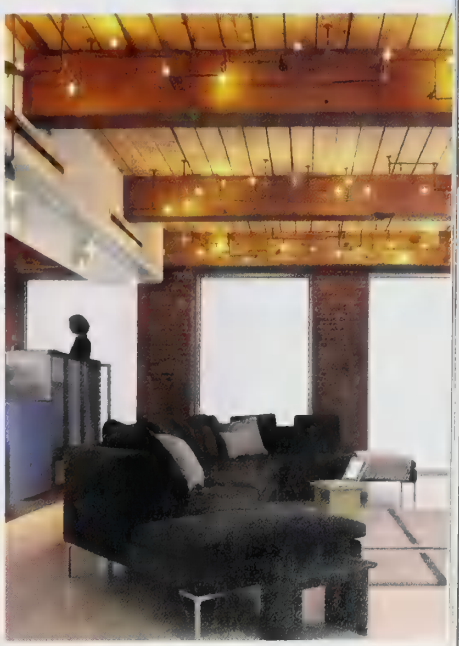
"A lot of those Jane Jacobs issues that apply to public space apply online," Liftin says. "Online, it becomes an issue of having someone come online to get



Downtown Duplex, New York City, 2003

A green fiberglass wall runs the length of this loft, providing plumbing and other utilities. Small LCD screens around the space allow the owners to access a Web-based home control and communication system.





(continued from previous page) a piece of information and trying to get them to go out of their way to have some other kind of experience that gets in the way of them getting their information. It's like living in a city: Why would you want to have to walk through public space when you can just get in your car, where people won't bother you and you can listen to music?"

In his practice, Liftin has only gotten one real opportunity to combine Web space with physical space: the Oscar Bond Salon and its Web site, which he designed with Jordan Parnass Digital Architecture [RECORD, March 2002]. Most of his commissions are either Web sites or architecture, though he's always looking for more opportunities to explore their overlap.

This is not to say that Liftin cares only about theory. He has an impressive portfolio of built work, which is by design. "Even with all of my research interests, I would never want to be in a position where I'm just teaching and doing more conceptual design," he says. "The idea of working with clients is a really important aspect of discovering new ideas about how people live and what they want in their houses.

"I feel like the process of working with a client is very important," he says. "I'm not interested in sitting by myself and just coming up with ideas. You see that a lot, because that's what happens in school, where you're sitting by yourself and listening to yourself think. You always need new input and some kind of resistance to just doing the same thing over and over again."

So Liftin isn't just sitting around with his head in the clouds. Need more proof? Just check his Web cam; you'll see exactly where his head is. *Kevin Lerner*

Go to *architecturalrecord.com/archrecord2* for more of Eric Liftin's projects, including links to his Web-site designs.



Milestone Venture Partners, New York City, 2000
Walls clad in fiberglass-reinforced acrylic divide the office, providing storage space for data and power cables. The walls continue into the corridors as ambient light boxes.





Wilsey-Beal Loft, New York City, 2001
A flexible library with movable shelves divides public and private space in this loft. The bathroom hovers behind the library like a glowing translucent cube.

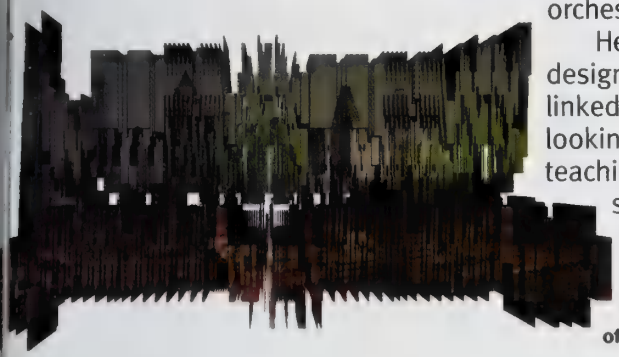


LIVE

Teaching AutoCAD to sing

Ray Bennett, an architect at McCarthy Hammers Architects in Dallas, went to architecture school on a music scholarship. And though he was aware of similarities between the two arts, that was the most direct link they had in his mind until he was inspired by a Rem Koolhaas lecture on the topic.

"The lecture was on a Thursday night," he said. "By that Monday, I had the program completed. It didn't take me very long to do, but it took 20 years to come up with the idea."



"The idea" was that he could run the numerical values that his Musical Instrument Digital Interface (MIDI) system assigned to songs through AutoCAD, and see what the songs look like when rendered. The program he wrote to do the conversion, which he calls Alchemist, won a 2002 AutoDesk iDesign award.

"I've got time in the X value, pitch in the Z value, and then pan, where the instrument actually sits in the orchestra, in the Y value," he said.

He can play keyboards; he can design buildings; and now he's linked the two. But Bennett is still looking for new challenges: "I'm teaching myself to play guitar," he said. "It's not going very well at the moment." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 for even more examples of Ray Bennett's musical renderings.



Clockwise from left: AutoCAD renderings of *Grabbag*, *Also Sprach Zarathustra*, and *Theme from 'Dallas.'*

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Architecture as geology? The latest definition emerges

Critique

By Robert Campbell

I'm sitting in on a student review at an Ivy League school of architecture. Two students are presenting their project for a site in Los Angeles, right across the freeway from Raphael Moneo's new cathedral. It's a mixed-use project, with housing and commercial and cultural and whatever else all mixed closely together—the kind of architectural salad that now goes by the vogue word "hybridization." The goal of the studio is to explore computer imaging as a tool for design and construction.

It's a good project. But I find that what fascinates me is listening to the words the students are using to describe their work. The ethnic populations of Los Angeles are described as "shifting tectonic plates." The resulting design proposal is described in those very same words. We also hear about the "folded surfaces" of the project, which the authors compare to mountains.

Contributing editor Robert Campbell is the Pulitzer Prize–winning architecture critic of The Boston Globe.

Am I in an architecture class? Or did I maybe get the room number wrong and instead wander into a seminar in geology?

Architects are forever punning from other fields into architecture. By punning, I mean that we take the forms and patterns from some other discipline and clone them directly into our designs. We usually choose that other discipline pretty arbitrarily, and often we're not even conscious we're doing it. Usually, it's just whatever happens to be the hot science of the moment.

Early in the 20th century, physics was the prestige science we punned from. Architects were forever telling you about their rigorous diagrams and lines of force and stuff like that. My favorite example is the plan of any of the British New Towns, built after World War II. The plan of such a town is an obvious clone of the atom, as the atom was then understood. Neighborhoods, isolated from one another, orbit like electrons around the nucleus of a town center, connected to it by lines of force, that is to say by roads or transit. As was



pointed out long ago by Christopher Alexander in his great essay "A City Is Not a Tree," and later by Jane Jacobs in *Death and Life of Great American Cities*, this is not a good plan for a town. To be vital, towns require confusion and overlap, not a sorting out into neat packages. In recent years, the atom has come to be understood as something more complex, and more indeterminate, than that old Rutherfordian model. And so has the city.

At other times, we've seen biology and linguistics take the stage as the hot sciences to be punned into architecture. Now I guess the fad is geology, no doubt under the influence of Peter Eisenman, with his excavations and layers and folded surfaces. Were the students aware they were the children of Eisenman? I don't know. More important, the question of why geology is an appropriate source for architecture is a question I hoped the students would articulate and examine. They didn't.

I collect definitions of architec-



Buildings at the University of Wyoming (top right) and Arizona State University (above) exemplify Predock's definition of architecture as "landscape in drag."

ture. One of them, at least, seems to justify the students' work. Antoine Predock said it: "Architecture is landscape in drag." Certainly Predock's own work, especially when you find it in the deserts of New Mexico, does look as if it had heaved itself up from the geologic subsurface. Such a building re-presents the landscape as architecture. It frames and abstracts the landscape into a human-made construction, a construction that seeks to be a presentation of the essence of the land.

Frank Lloyd Wright was surely the great architect of landscape in drag. His drafting room at Taliesin East, with its treelike columns and trusses and light filtering down from above as if through leaves, is a re-presentation of the Wisconsin forest. Taliesin West, as is often noted, re-presents the rock forms of the desert, and the drafting room with its translucent roof is a re-presentation of a tent encampment under harsh sunlight.

Of course, architecture can re-present other things besides landscape. It can, for example, re-present its own construction in an abstracted form, as does the facade of the Seagram Building, and as do so many classical buildings with their pilasters and other pseudo-structural motifs.

There are, of course, other definitions of architecture. At a conference at the University of Virginia years ago, someone—I think it was Warren Byrd, the landscape architect—said, "Design is giving form to value." That's another superb definition. Every building is a billboard that shouts the values of those who have created it, whether intentionally or not. The box-shaped, curtain-walled, Modernist office building, for example, which looks like the carton the real building came in, is an eloquent statement. It clearly announces that this is a container of leasable volume and nothing more. What is valued is rent, and design is giving form to rent. A skyline of such flat-topped towers reads like the bar graph of profits on the financial page of the newspaper.

EVERY BUILDING IS A BILLBOARD THAT SHOUTS THE VALUES OF THOSE WHO HAVE CREATED IT, INTENTIONALLY OR NOT.

As the late James Marston Fitch pointed out, the boxy tower's high, vast lobby is also a statement—a statement of wealth. It is the conspicuous consumption of expensive ground-floor real estate for no useful purpose. Wasting empty volume was the only way to make such a statement in an era when architectural taste forbade the display of rich materials and ornate details.

By contrast with the corporate box-top tower, the aspiring, cathedral-like fleches of the towers of the teens and '20s speak of the joy and aspiration of individual entrepreneurship at a time when capitalism in America was a religion. That was the era when Bruce Barton, in his huge 1924 best-seller *The Man Nobody Knows*, announced that Jesus was the greatest businessmen of all time: "He picked up 12 men from the lower ranks of business and forged them into an organization that conquered the world."

Another of my favorite definitions comes from Colin Rowe, the British historian and theorist: "Architecture is pretentious building." Rowe means the word "pretentious" in two senses, one negative and one positive. The work of architecture is self-important as compared to the ordinary building. But it also—like a "pretender to the throne"—seeks a higher truth, a higher meaning and significance.

Rowe liked to quote Gilbert Scott in *The Architecture of Humanism* on the same theme: "If you look at a building and the windows are the right size, it may or may not be architecture. But if the windows are definitely too big or too small, you may be almost certain you are in the presence of a work of architecture." Pretension in both senses, indeed.

My own definition of architecture I arrived at some years ago: "Architecture is the art of making places." Architecture is certainly an art, but it is not principally the art of sculptural form or beautifully proportioned facades. It differs from all other arts in that its subject is places. Places may be rooms and corridors, or streets and squares, or parks and gardens, or towns and cities. Architecture is the art of all places intended for human habitation. One experiences a work of architecture not by looking at it like a painting, or even walking around it like a sculpture, but rather by imaginatively inhabiting it.

Should we add, "Architecture is geology"? Maybe. Am I right in guessing that the student interest in geology is the result of a hunger for something material and physical, in a world (and a studio) where almost everything else that matters takes the form of weightless images on a screen?

In any case, I'd be curious to hear from readers any other favorite definitions of architecture. ■



The planning of Cumbernauld, Scotland, a New Town, is evident from the sky.



Frank Lloyd Wright's Taliesin West in Scottsdale, Arizona.

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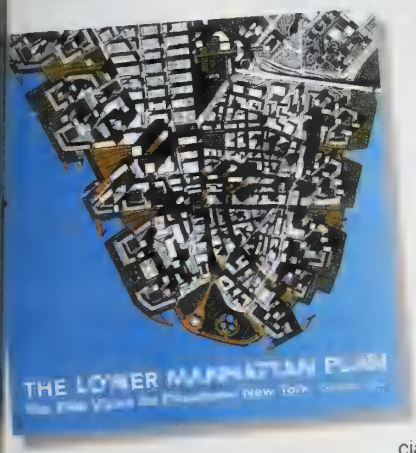


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Books on urban planning, from the banks of the Charles River to the streets of Seaside

Books



The Lower Manhattan Plan, *edited by Carol Willis. New York: Princeton Architectural Press, 2002, 368 pages, $25.*

Why should we be interested in a nearly 50-year-old plan for Lower Manhattan, of which only 100 copies were originally printed? The idea to reprint was generated by a 2002 exhibition at the New-York Historical Society, *WTC: Monument*, which explained the towers' conception and construction in the context of 1960s New York. In addition to an introduction by Carol Willis, the new volume offers an essay about the New York waterfront's history and future by Ann Buttenwieser and recollections by Paul Willen and James Rossant, two of the consultants who produced the original plan. Donald Elliott and Elinor Guggenheimer write about the New York City Planning Commission in the 1960s.

In her introduction, Willis reminds us that until the '60s, New York's habit of replacing old with new construction and small with large buildings was equated with progress. Negative reaction to the vast scale of the World Trade Center and its erasure of 12 old blocks changed that. "Today, many consider the bulldozer urbanism that razed districts such as Radio Row and Washington Market to have been a cataclysm by planners," Willis writes. Her book advances an alternative view of the era.

Instead of focusing on what was destroyed, the book stresses that planners, politicians, architects, and engineers transformed an obsolete port and aging office district into a new financial center. The waterfront was decaying, and by 1966 only one third of Lower Manhattan's piers were active. Instead of being overshadowed, Willis writes, Lower Manhattan was "transformed and reinvented" in the '60s and '70s. In addition to adding 30 million square feet of office space, they eventually created 92 acres of residential developments, parks, and recreational space at the river's edge in Battery Park City. This, at a time when corporate headquarters and jobs were moving to Midtown and the suburbs.

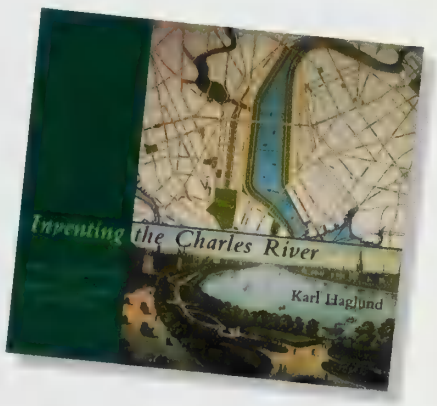
Among the plan's lessons for today, Willis writes, is to think boldly about change. During economically fat times, market forces determine development, but during lean times, such as now, planning can play an important role. The 1966 plan, in fact, predicted, "The future of Lower Manhattan will be determined more by what people want and take collective action to get, than by the unseen market forces" over which communities have little control. Let us hope so. *Andrea Oppenheimer Dean*

Inventing the Charles River, *by Karl Haglund. Cambridge: MIT Press, 2002, 512 pages, $49.95.*

The lower reaches of the Charles River in Watertown, Cambridge, and Boston offer miles of grassy banks, tree-lined paths, and still water. Many park visitors assume that this natural scenery has been there for a very long time. Nothing could be further from the truth. Every inch and ripple of the Charles River Basin, as it is now known, was invented. Around the turn of the 19th century, the Charles River Basin became the centerpiece of one of the most ambitious park systems in the United States and one widely admired both at home and abroad. The ideas that led to that first transformation are still shaping the river today as designers complete plans to link the Charles River Basin to Boston Harbor under the soaring cables of the new Leonard Zakim Bunker Hill Bridge.

This is a river story worth telling, and Karl Haglund has done so with elegant prose and rich illustrations. It took him some 20 years to complete this book, and now we know why: It is not one book, but several. Haglund has fascinating stories to tell about the development of the Boston Common, Back Bay, Mount Auburn Cemetery, Boston railroads, the early Boston park system, college campuses, and the metropolitan highway system, among others. The Charles mirrors a much larger story—the shaping of the Boston Metropolitan District. While casual readers may be frustrated by the meandering themes, serious students of urban development will be engrossed.

The Charles River Basin is a monument to the power of ideas and powerful individuals. In the mid-19th century, Robert Gourlay, an insomniac from Scotland who claimed not to have slept for six years, was the first to imagine the river as a formal basin lined with parkways and urban districts. In 1907, Ralph Adams Cram envisioned an entire island district in the middle of the basin linked to the shore by new bridges. While these and many other proposals were never realized, they shaped perceptions and ultimately influenced the development



of the basin. Haglund focuses particular attention on two seminal periods: the establishment of the Metropolitan Park System between 1890 and 1903 and the planning for the new basin in the context of Boston's Big Dig between 1989 and 1994. The nearly completed Big Dig will bury Boston's central artery and has added a third harbor tunnel. These two periods, a century apart, illustrate a profound shift in the way

civic leaders, professionals, and the public have interacted to shape the public landscape. A "culture of refinement" and of high-minded discourse among a Boston and Cambridge elite has given way to an era of big government, specialized professions, and citizen advisory committees. Creative and persuasive individuals still make the critical difference, however.

This book about heroic inventions and new beginnings tells a very American story. We have built great civic parks and then seemed to loose interest. The very agency organized a century ago to care for the Charles is threatened with extinction today, and Boston is designing new parks to cover the Big Dig with no clear idea yet of who should maintain them or how. Great parks are not simply invented; they need to be nurtured over generations. *Herbert Nolan, ASLA*

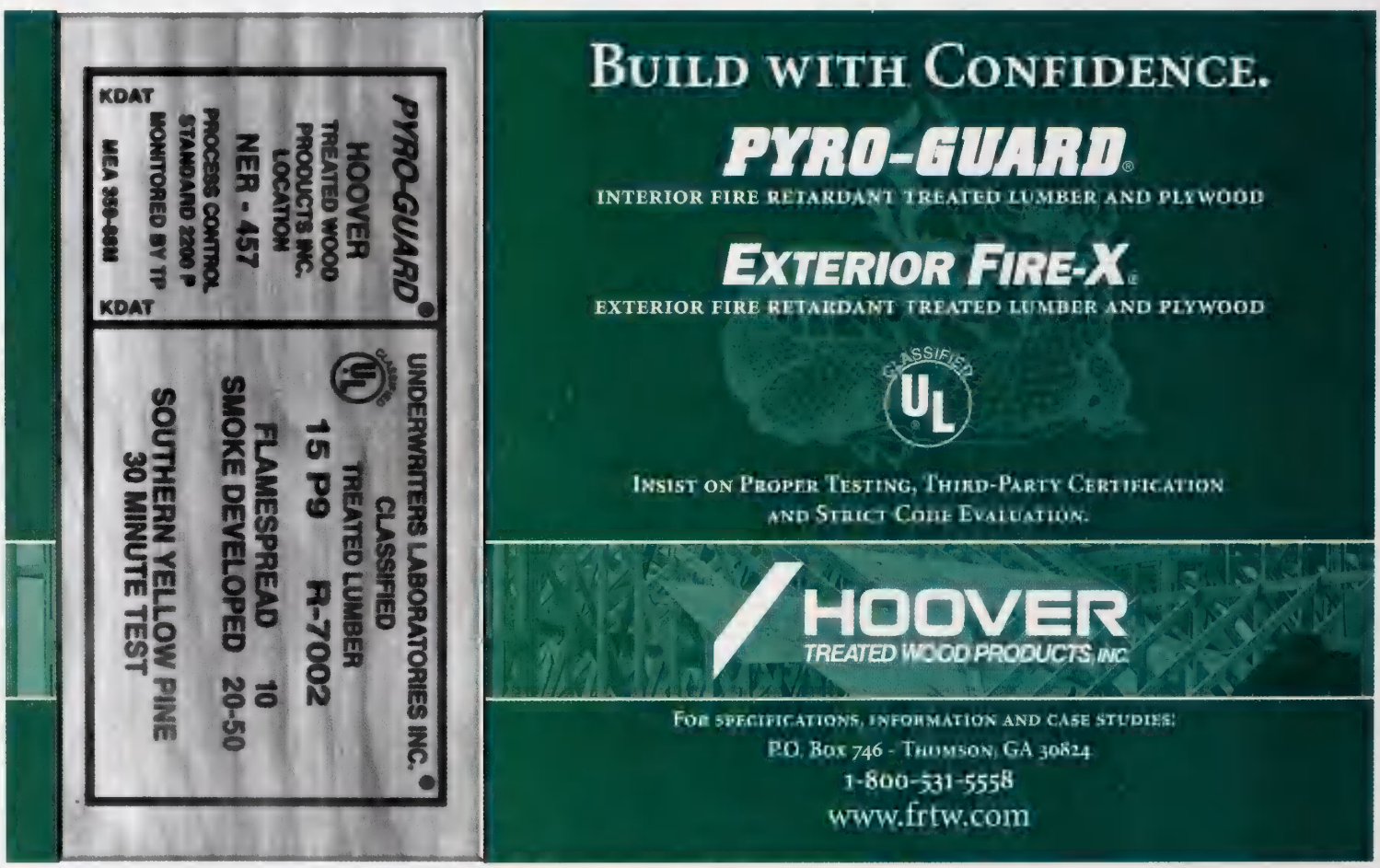
The Mayors' Institute: Excellence in City Design, *edited by James S. Russell. Washington, D.C.: National Endowment for the Arts, 2002, 96 pages, $11.95.*

Over its 17-year history, the Mayors' Institute of Design (MICD) has brought together more than 500 mayors and nearly as many design professionals. Dedicated to improving the design and livability of cities, MICD, a National Endowment for the Arts initiative now administered by the American Architectural Foundation in partnership with the NEA and the U.S. Conference of Mayors, holds two-and-a-half-day symposia in which mayors and designers learn from each other. Mayors present design issues facing their cities; designers then identify issues, offer suggestions, and discuss alternative solutions in understandable terms.

This little book, one in a series by the MICD, serves as a handbook and an education in design basics. It is valuable not only for mayors but for any official—or client—who understands design only vaguely, if at all. Russell, RECORD editor at large, briefly describes the roles of architects, landscape architects, urban planners, urban designers, and artists. He outlines the necessary ingredients of different types of public places: parks, public buildings, libraries, and memorials. And he explains the fundamentals of urban waterfronts and housing and of civil engineering for cities ("until recent decades, public works were deemed worthy of the highest level of design attention."). Alan Jacobs, architect, city planner, and former Berkeley professor, identifies the components of great streets. Donovan D. Rypkema, principal of the Washington, D.C., consulting firm Place Economics, lists the elements of success in downtown revitalization. And Alex Krieger, FAIA, chairman of the GSD's department of urban planning and design, lays down rules for developing cities: beware of homogeneity, believe in mixed use, ban the term "open space." Rosalie Genevro, executive director of the Architectural League of New York, explains design competitions, and Russell describes the uses of community workshops. Each section is illustrated with recently built projects.



The other books in this series, edited by Mark Robbins, are: *Sprawl and Public Spaces: Redressing the Mall*, edited by David Smiley; *Schools for Cities: Urban Strategies*, edited by Sharon Haar; *Your Town: Mississippi Delta*, edited



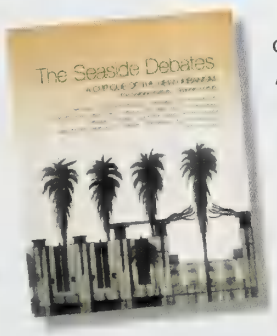
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by Shelley S. Mastran; and *University/Community Design Partnerships*, by Jason Pearson. *A.O.D.*

The Seaside Debates: A Critique of New Urbanism, *edited by Todd W. Bressi. New York: Rizzoli, 2002, 160 pages, $45.*

This is a curious little book. It is essentially a record of a several-days-long gabfest at Seaside (one of the holy sites of the New Urbanism movement) that took place more than four years ago. All the high priests of the movement were there: Andres Duany, Elizabeth Plater-Zyberk, Robert Davis, and Stefanos Polyzoides, along with Jaquelin Robertson, who occupies the pages of this volume like a benevolent Godfather of the movement. Robertson, you might recall, presided over another conference-cum-Rizzoli book, *The Charlottesville Tapes*, back in the early 1980s. He had hoped it would be an opportunity to discuss broadly the issues of urbanism. It turned out to be more of an architectural Trilateral Commission, which some suspected was a Postmodernist cabal. Remember those days?

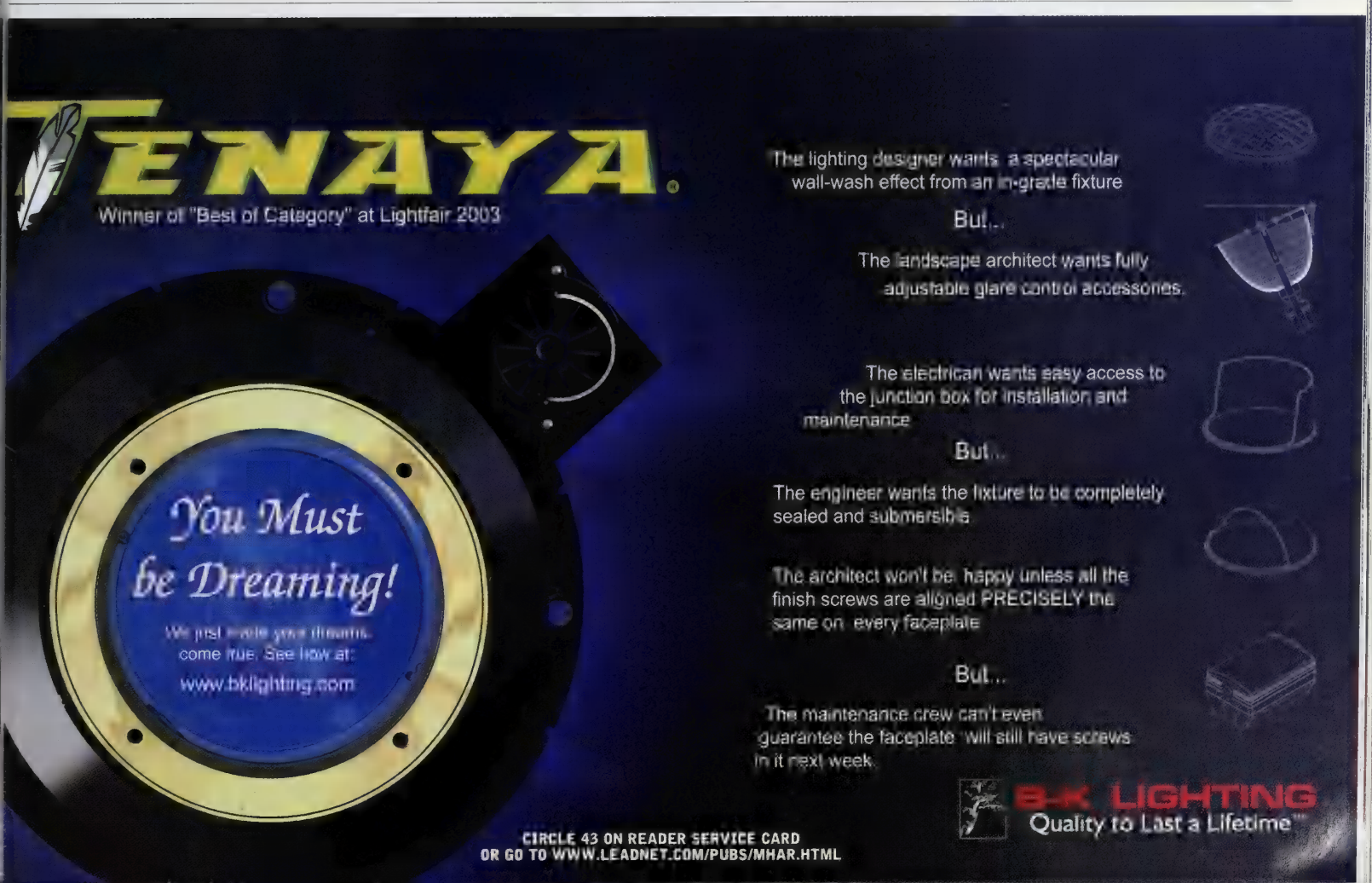
The Seaside Debates is odd in that there is very little debate in it. There are several essays by the priests, none of whom question the tenets of New Urbanism orthodoxy. Some of these essays are just plain dull, such as Peter Katz's "Notes on the History of the New Urbanism," which is for the diehards only. Most of the book is taken up with reviewing New Urbanism projects, done by some of the conference participants. A few of these projects are quite good, such as Urban Design Associates' schemes for Crawford Square and Bedford Dwellings, both in Pittsburgh, which piece together new neighborhoods from the fragments of ones that had been obliterated by "urban renewal."



Three projects in California by Dan Solomon are exceptional in their lightness of touch and creation of urban places on the scale of a small multifamily housing development. These projects and others are presented as one would a studio jury: a presentation by the designer and then commentary by the assembled gray eminences. The jury comments, for the most part, are earnest and helpful. The skirmishes here are small potatoes. Lost among the festivities is the late Colin Rowe, whose critiques about lack of geometric purity, as he saw it, seem sadly out of step with the way people actually inhabit and use space.

The lone champion of debate in this book is Alex Krieger of Harvard. "The New Urbanism is an impressive, powerful, growing, and great movement," Krieger addresses the conferees, "but perhaps not quite as great as you, its founders, claim it to be. Lighten up. Enough self-congratulatory testimonials. You are practically the establishment now. One of the few things still missing is some humility, or barring that, a bit less hyperbole, and barring that, at least a sense of humor."

Krieger objects to the movement's taking possession of the term "urbanism," and points out that New Urbanism's aims of more livable communities and reasonable development are things that all of us, architects and nonarchitects alike, want. He suggests that the New Urbanism has created more subdivisions than actual towns; densities too low to support mixed-use development and public transportation; homogenous demographic enclaves instead of rainbow communities; a new form of planned unit development, not yet substantial infill; rose-colored evocations of a golden age of small-town-dominated urbanism; and an increased reliance on private management of communities, not innovative forms



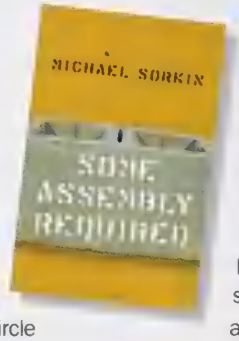
of elected local governance.

Krieger's critique is sound, and his points deserve thoughtful responses. Unfortunately, they are nowhere to be found in *The Seaside Debates*. *Michael J. Crosbie*

Some Assembly Required, *by Michael Sorkin. University of Minnesota Press, 2002, 264 pages, $19.95.*

For an architect, Michael Sorkin isn't particularly interested in buildings, at least tectonically. His agenda is more social and cultural, with buildings providing starting points for reflections on sprawl, globalization, media, ecology, multinational corporations, and other large and important topics. Such a wide-angle, synoptic view is rare among architecture critics, and one of the things that sets Sorkin's work apart.

Some Assembly Required, his third collection of essays, is divided into three sections: "Cities and Places," "Architects and Buildings," and a potpourri of free-floating political and pop-cultural pieces called "Misfits." And like most such collections, it is a mixed bag. Brilliant essays on Gehry and Bilbao ("Animating Space") and the legacy of Archigram are bundled together with old news about Richard Meier ("Come and Getty") and Columbus Circle ("Round and Round") and bits of fluff such as "Upstairs, Downstairs," a riff on Graceland and the White House.



Sorkin is terrific when he's on edge—less so when he's merely playing the bad boy—and at his best as an observer of cities. His essays on Cairo, Chandigarh, and urbanizing China are provocative dispatches from the eternal battle between modernity and tradition, where the mania for growth is rapidly obliterating local culture. One possible remedy, here as well as in the Third World, is a new synthesis of architecture, planning, and urban design through which the lust for building is tempered by a desire for livable cities and a respect for nature and its systems. Sorkin believes we're a long way from that.

"With the world population growing exponentially, billions ill-housed, and an asphyxiating planet," he writes, "mainstream architecture's aggressively narrow interests are simply not helpful." Irrelevant is more like it.

Among his other proposals are serious research, experimentation that is more than stylistic, and the rekindling of a sense of environmental stewardship. He champions the local and the accidental over the universal and prescriptive. He wants small fixes rather than big ones, the gritty indeterminacy of a Greenwich Village or a North End instead of the bland reassurances of Celebration or Las Colinas.

Given his insights, it is unfortunate that Sorkin's prose is often so murky. At least two competing and unreconciled voices play through these essays, one direct, colloquial, and immediately engaging, the other convoluted, jargonized, and tuned to the academy and the coterie that he loves to hate. It is a voice that mystifies rather than clarifies, and for which the antidote is merciless editing.

Still, it is impossible not to admire the breadth of Sorkin's concerns, or the wit and chutzpah with which he skewers such icons as Disney, New Urbanism, the AIA, and the laissez-faire cynicism of Rem Koolhaas. He is challenging and fearless and willing to take tough stands without resorting to the "ism" of the moment. At the end of a Sorkin essay, you don't have to ask what the author thought. *David Dillon*

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With flowing tubes of steel, Lebbeus Woods captures moments of flux in the space before collapse

Exhibitions

By Joseph Giovannini

The Fall. *By Lebbeus Woods. Part of the exhibition* Unknown Quantity, *conceived by Paul Virilio, at the Fondation Cartier Pour L'art Contemporain, Paris (ended March 30, 2003).*

Built in the capital of the nation that produced Descartes and the Napoleonic Code, the Minimalist glass box that Jean Nouvel designed for the Fondation Cartier on the Boulevard Raspail is the height of architectural rationality: a shimmering glass curtain wall hanging on a simple steel frame. But this winter, the Fondation hosted a show curated by Paul Virilio, a philosopher and critic of technology, called *Ce qui arrive* (*Unknown Quantity*), and on the ground floor, the exhibition featured, as one of its components, a major installation by Lebbeus Woods, New York's resident architectural visionary. Woods's piece, which questioned the grid and the geometry of control and measure it represents, posited a built critique of reason.

Woods is an architectural prophet, perhaps America's foremost—without manifest honor at home. Seemingly condemned to fame abroad, he occupies a near legendary role as the moral conscience of a field in which buildings play formative social roles. The site of Woods's ruminations is usually a zone of crisis on which he builds (a territory he shares with French catastrophe theorist René Thom).

Joseph Giovannini is a New York City architect and the architecture critic for New York *magazine.*

During the recent Balkan wars, he ventured many times into Sarajevo to bear witness, producing and exhibiting visions of buildings spontaneously reimagined and configured from the scavenged parts of destroyed structures. The designs, with exploded innards reframed in dynamic interventions, posited a poetic response to the destruction televised daily around the world to passive viewers. The drawings were inspirational and somehow healing, as though a pacifist Gandhian impulse transformed a destructive act of war into an occupiable gesture of peace. The visions were tough but beautiful in an uncanny way.

Woods, who teaches at New York City's Cooper Union, is the rare architect who draws rather than writes theory, but over the past two years he has actualized his paper drawings as space drawings through exhibition installations. Last year at the Cooper Union gallery, in one of his infrequent shows in the United States, he visualized a force field shooting through space by constructing wires and batons streaming into a midair collision that formed other vectors. Woods has left two-dimensional space to work in the third dimension, depicting vectorial dynamism in flows of continuous change. He understands space as force.

In Paris, Woods—with collaborator Alexis Roch—proposes a similar spatial thesis by planting a field of 23-foot-long aluminum rods in a cube of space 50 by 70 by 25 feet high. Glinting under the lights and in the sun, the rods bend in waves like a field of wheat bowed by the wind. Held in square grids shuffled chaotically on the floor, the rods part to allow irregular inlets of space through the moving thicket. As in the Cooper Union show, Woods's installation represents a vectorial flow, as though reifying invisible forces moving through Nouvel's box.

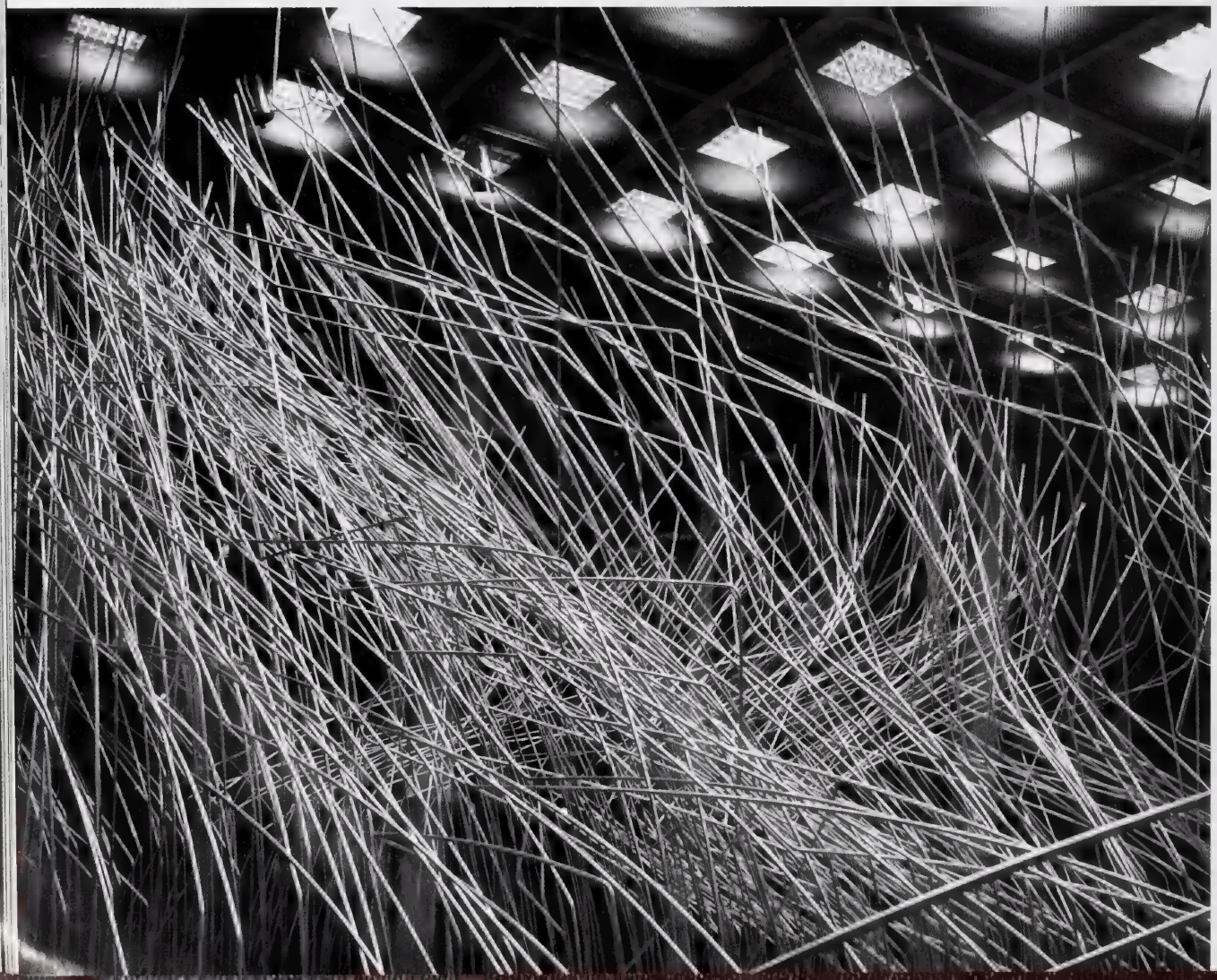


There are strange attractors in Woods's universe unexplained by the surrounding rationalism.

Virilio pairs Woods's installation with the wreckage of airplane parts assembled by Nancy Rubins, an installation suspended in another cube of Nouvel's glassy space. In the basement galleries, the philosopher runs newsreels of recent and past disasters. The first is a real-time video of the World Trade Center after 9/11, smoldering, as a crane proceeds to assert order in the chaos. Virilio develops the theme of accident and disaster screen after screen with footage of explosions, bombings, and collapses—the atomic mushroom over Bikini (1946), Three Mile Island (1979), Bhopal (1986), Chernobyl (1986), the Challenger (1986), Exxon Valdez (1989), the Kuwait oil fields (1991). Virilio is not morbidly scavenging the wreckages of a spectacularly destructive century but making us face the evidence of what he calls "an unprecedented proliferation of major accidents" in living memory. He believes that this



Woods built his fall in a process calibrated for the unpredictability of a fall, for a system that requires spontaneity.





The Fall **is not about destruction or wreckage. It's a representation of "the space of the fall itself."**

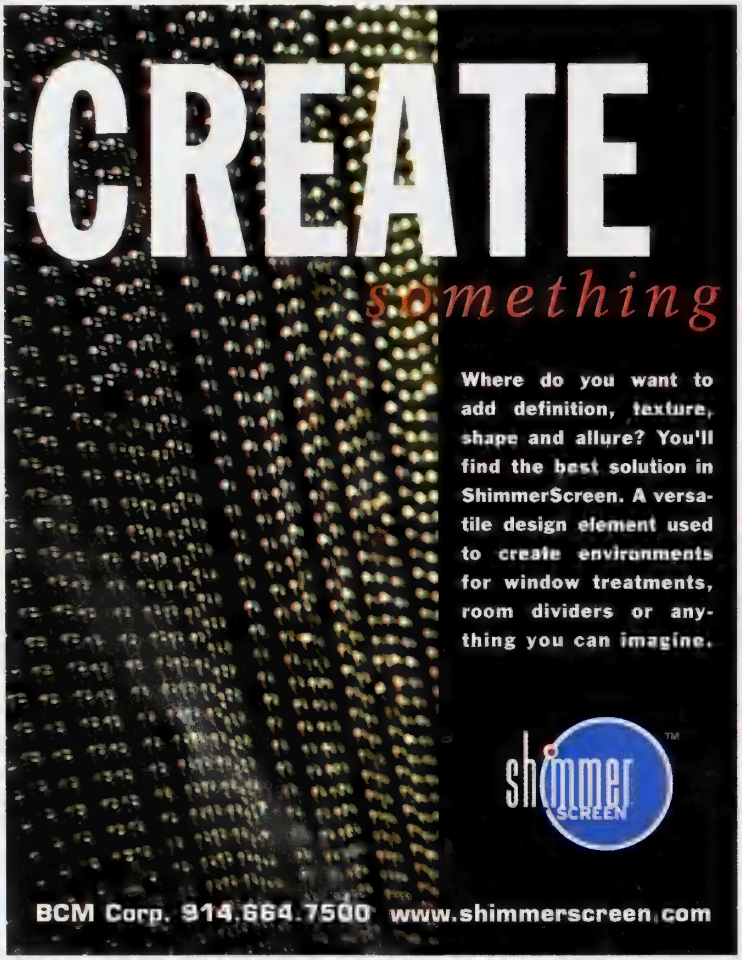
accumulation denies that the accidents are results of chance, but rather the indirect fallout of technological progress that breeds the probability of disaster: Major accidents are endemic to social systems based on technology. Those disasters that happened early in the 20th century, like the Titanic, tended to be natural and local, but now many are man-made and increasingly globalized in a technological ecosystem linked across oceans and continents. The accidents are in their way constructed: The apparently rational harbors the irrational. Virilio in this show reveals that accidents can no longer be unexpected; he exposes harmful corollaries devolving from the qualitative achievements of an age of discovery.

After the immersion in Virilio's underground séance, visitors reemerge at grade and encounter Woods's flowing tubes with a different mind-set. The vectorial currents are not aesthetically innocent, but charged with a meaning partially explained by Woods's title, *The Fall*. Woods is not representing the disasters projected downstairs in a three-dimensional illustration. He has consistently been interested in precipitate change, whether the result of war, financial collapse, earthquakes, or even weather. In the context of the show, he tried to capture the moment of flux, the space-time between the first shudder of collapse and the eventual heap—what he calls "the space of the fall itself" that might occur in the second or two during the toppling of a building like Nouvel's temple of reason. (In fact, this so-rationalist structure proved underengineered and had to be retrofitted with cross bracing.) "But the installation is not about destruction or wreckage. It's a vector system that finds a certain kind of space produced by radical change," he explains. He intended to shape space with lines rather than masses, forming a three-dimensional field rather than an object.

"IT'S A VECTOR SYSTEM THAT FINDS A CERTAIN KIND OF SPACE PRODUCED BY RADICAL CHANGE," SAYS WOODS.

Woods built his fall in a process calibrated for the unpredictability of a fall, for a system that requires spontaneity. He asked the fabricators in Paris only to make two or three segmented bends in each rod as they saw fit, and then to place each rod in a hole within the metal plates that Woods shuffled across the floor. He purposely set in motion a process that he did not control: The installers placed the rods themselves without instructions in what proved a self-organizing exercise.

Woods's research into spaces of sudden change found an unusually resonant context in Virilio's provocative show. Technologies come with a price, and architecture—for example, the Twin Towers—represents technologies with consequences, whether ecological or sociological or financial. Woods's installation may only be suggestively related to the disasters depicted downstairs, but the show deeply tinges his installation, turning it into a beautiful but cautionary tale. Woods's is a multivalent piece that deals with pure architectural subjects such as vectorial space, but it also helps open the broader discussion of accident. Woods's exhibition physicalizes and spatializes the concept of precipitous change underlying all the films. Visitors could only see the film documentaries downstairs. Upstairs they could walk into a work of great imaginative and conceptual power. ■



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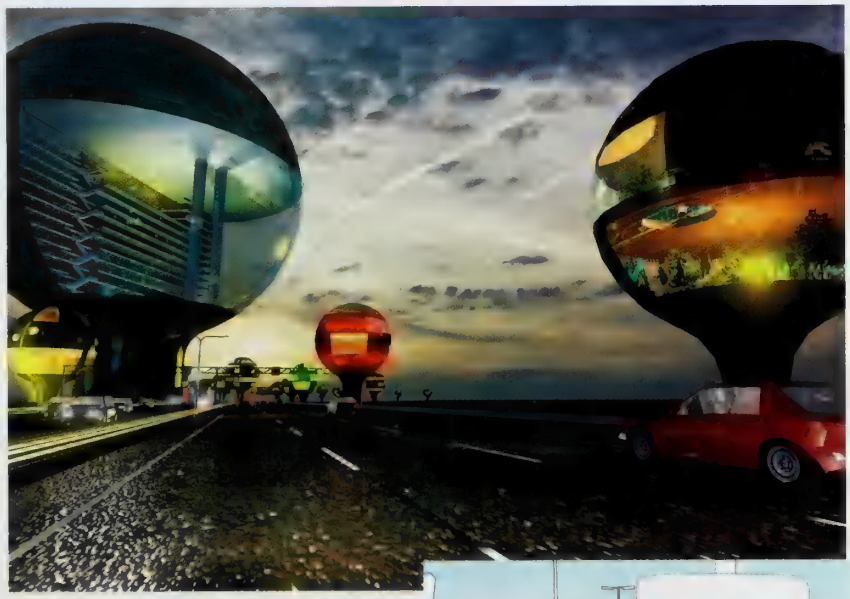
By Tracy Metz

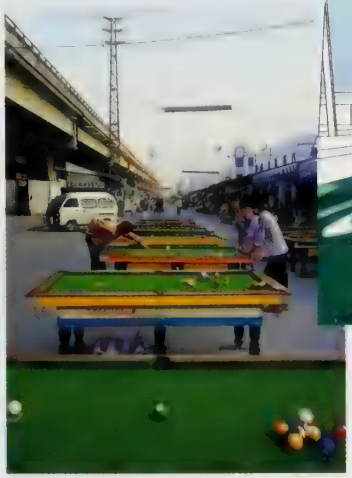
Mobility: A Room with a View. International Architecture Biennale Rotterdam. *Curated by Francine Houben. At the Netherlands Architecture Institute, Las Palmas, and locations around Rotterdam, through July 7, 2003.*

Mobility has changed our landscape forever. Our cities and our daily lives are shaped by our own perpetual need and desire for movement. *Mobility: A Room with a View* is the theme of the Netherlands' first International Architecture Biennale, which is being held in Rotterdam, Holland's architecture capital, between May 7 and July 7. Architects, civil engineers, urban planners, traffic experts, landscape architects, students, filmmakers, and photographers from around the world will spend two months presenting plans and exchanging ideas in the form of exhibitions, lectures, publications, debates, films, and excursions. Coinciding with the opening of the Biennale, the Museum Boijmans Van Beuningen is opening its new extension by the Belgian architects Robbrecht and Daem.

The Biennale is curated by architect Francine Houben, one of the founders of Mecanoo and professor in the aesthetics of mobility at the Technical University of Delft. "Mobility space, that gigantic network of public space in which innumerable people sometimes spend hours each day, has apparently come into being carelessly, as the sum of only technical decisions by traffic experts, engineers, and politicians, in which designers have no part," she says. "The motto 'A Room with a View' is intended to be polemic: A choice for the perspective of the daily traveller." Holland itself, the most densely populated and by far the smallest country in Europe (also with a lot of water), is an interesting case in hand: It has a voluminous and complex infrastructure that to a large extent determines the development of urbanization throughout the country. On the other hand, the roads are relatively safe, and citizens have more choice than in most countries of their modes of transport: Car, public transport, or of course, bicycles.

The program of the Biennale includes lectures, debates, symposia, and exhibitions in the Netherlands Architecture Institute (NAi) and the former warehouse Las Palmas. For the main exhibition, *World Avenue*, Houben invited universities in 10 cities or regions from all over the world—Los Angeles, Tokyo, Peking, Pearl River Delta, Jakarta, Beirut, Budapest, the Ruhr region, Mexico City, and "Randstad Holland," the metropolitan agglomeration of Western Holland, which includes Amsterdam, The Hague, and Rotterdam—to portray a vital mobility route approximately 100 kilometers long according to a fixed research format, so that the results would be comparable, and to put forward innovative design proposals for a 10-kilometer-long stretch. The UCLA team led by Sylvia Lavin, for example, describes the freeway as a fundamental part of life in Los Angeles, and investigates what use designers can make of what they call "K-space"—space as divided up by the reach of the various L.A. radio stations: 54 in English, 27 Spanish, and many other languages, as well—which all have K as their first letter. The freeway experience, states the UCLA team, is also entertainment. Countless cameras are trained on the freeway, both by police and by local news networks,







The exhibition's varied interpretations of mobility posit implementing changes to the way we see and use our roadways.

Tracy Metz is RECORD*'s correspondent in Amsterdam.*

night and day. After the wild O.J. Simpson chase, the freeway has become a space consumed in both our cars and our homes. "The freeway's great," concludes the UCLA essay. "Wish you were here."

In addition to *World Avenue*, there is also the exhibition *Holland Avenue* in the NAi, with designs by 11 international architecture schools for a segment of the road network traversing the Randstad. And the exhibition *Motopias* discusses a dozen historical objects and concepts, projected on large windshields, that clarify how the swift rise of modern traffic, in particular the car, has drastically changed our thinking about the city and the landscape.

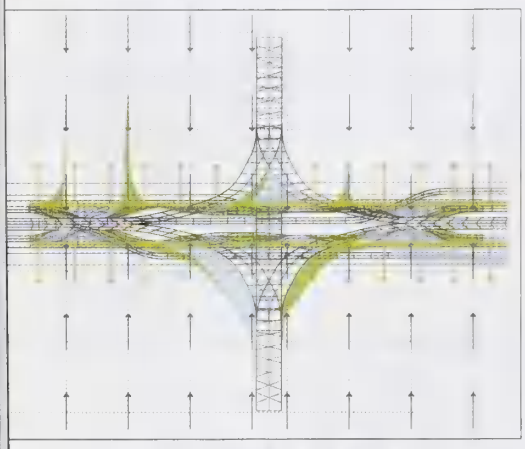


Diagram from "Park City," from the UCLA team's exhibition.

Las Palmas is the venue for the Mobility Laboratory, or MOb_LAb, a selection of 130 proposals from all over the world submitted in response to an open call by "e-mail tom-tom." Here, too, are the international exhibitions, including work by the Civic Alliance to Rebuild Downtown New York. Here, too, you can undergo the *Rotterdam Cakewalk*, an exhibition like a fairground ride on the experience of road users in a modern city. The *Cakewalk* gives views of the city generated by the car, the metro, the pedestrian, the bicycle, the skateboard, the tram, the water taxi, and—an almost exclusively Dutch phenomenon—the scootmobile, an electric cart used by the handicapped. The Biennale regards itself as a focal point for debate, and therefore sees the International Forum for Debate as an important part of the program. The forum includes the Great Biennale Debate, with representatives of government ministries, trade and industry, and consumers. In the NAi, a series of three themed lectures will be held about the influence of speed and mobility on the design of urban space, buildings, and cars. Participants in the "Star Speakers" program (one of the venues for which is Rem Koolhaas's Kunsthal) are, among others, Peter Cook, Greg Lynn, Hani Rashid, Dominique Perrault, Zaha Hadid, Shigeru Ban, and Dutch architects such as Ben van Berkel, Kees Christiaanse, Adriaan Geuze, and Wiel Arets. Museums and galleries all over Rotterdam will make their own contribution to the City Program, such as the National Foto Museum (the future user of Las Palmas), which will be showing panoramic photographs by photographer Siebe Swart of how infrastructure transforms the Dutch landscape, and will also hold the Rotterdam Architecture Film Festival (June 18–22), with the theme "Celluloid Cities." ■

"THE FREEWAY'S GREAT," CONCLUDES THE UCLA ESSAY. "WISH YOU WERE HERE."

For dates and venues, see www.biennalerotterdam.nl and www.1ab.nl. Publications by NAi Publishers include: Mobility: A Room with a View *and* In Transit: Mobility, City Culture and Urban Development in Rotterdam.

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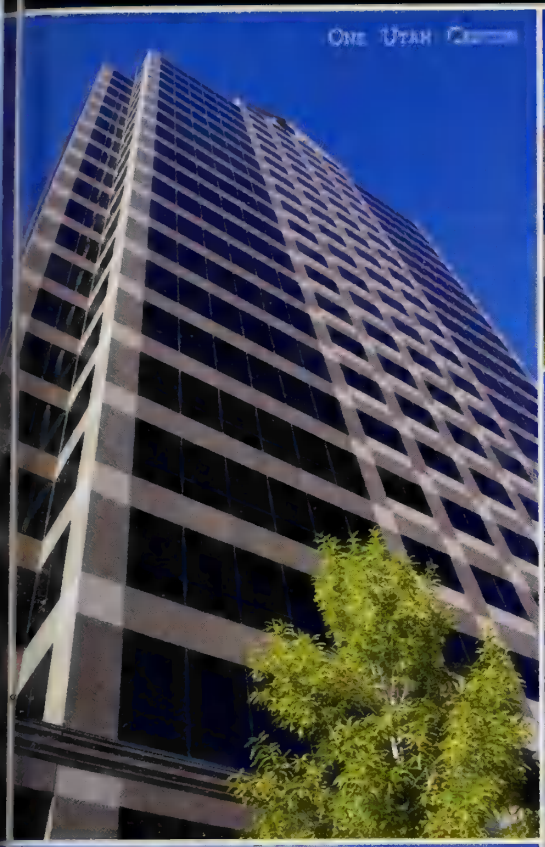
THEATRE CONSULTANTS
SINCE 1972



Architect: Kamnitzer + Cotton Architect, Lett / Smith Architect
Image: Don Milici Photography c. 1989

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Snapshot



By Naomi Pollock

A traditional building type, the teahouse, comes of age

A teahouse with a twist, Fukyo is Fukuoka architect Hiroyuki Arima's take on one of Japan's most rarefied and ritualistic architectural forms. Encased within a parallelogram-shaped wrapper made of glass and steel, Arima's futuristic interpretation bears little resemblance to the rustic hut built out of wood and thatch idealized in the 16th century by Sen no Rikyu, the father of Japan's classical tea ceremony. Yet the delicacy of Fukyo's detailing and its carefully collaged materials are as exquisite as the confections customarily served up with the frothy green brew.

The project was launched when Arima was asked to spruce up the garden attached to a traditional-style inn located 90 minutes from his hometown. "The client didn't ask for a tearoom, but I wanted to make one," says Arima, who was eager to try his hand at modernizing the history-laden building type. More choreographed dance than casual refreshment, the tradi-

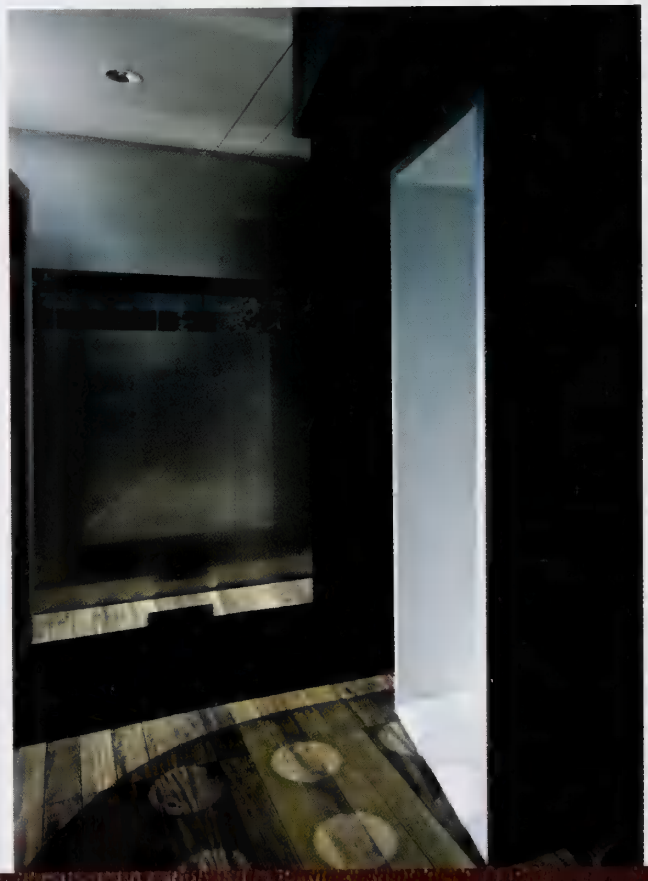


Snapshot



Arima used a stainless-steel wall whose mirrored outer surface reflects the surrounding trees (right). Breaking with tradition, both layers introduce an unprecedented degree of openness: The movable walls enable people and light to move easily in and out of the teahouse's inner sanctum, and the transparent enclosure reveals its sequestered inner workings (below right and left, and opposite). "Wouldn't it be interesting to show what goes on behind the scenes?" says Arima.







tional tea ceremony consists of a sequence of highly controlled movements that require, among other things, a tatami mat floor, a tokonoma decorative alcove, and rooms of very specific dimensions. While Arima bowed deeply to many of these requirements, the 183-square-foot Fukyo can also accommodate wedding ceremonies, concerts, and other small gatherings.

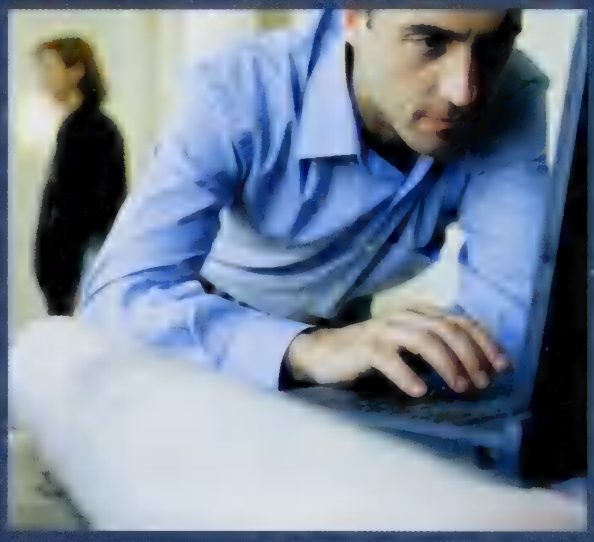
Fukyo, whose name means "sitting among the maples," is connected to the hotel's lobby by a narrow path that winds its way through the 2,153-square-foot garden dotted with maple trees Arima had trucked in from nearby Mt. Aso. Perched on a wooden deck amid the greenery is the slanting glass-and-steel shell marking the building's border. Inside, a second set of walls outlines the square ceremonial space: A three-mat tatami room, where tea is prepared and served, and a staging area, where the ingredients and implements are readied. An irregularly shaped circulation space, including a double-height corridor crowned by a skylight, mediates between the two sets of walls.

While the exterior wall is fixed, the interior one is a combination of sliding screens and Arima's signature rotating flaps. Where the two overlap, Arima used a stainless-steel wall whose mirrored outer surface reflects the surrounding trees. The only perforations in the building skin are the four doors encased in steel boxes jutting out from each side. While a slender white box announces the formal entrance, a squat black one conceals the *nijiriguchi*. A direct quotation from the classic teahouse, this tiny opening leads directly into the tatami room but requires crawling on all fours.

An abstract grouping of glass-and-steel boxes, Arima's teahouse hardly looks the part. But looks can be deceiving. Concealed within its contemporary covering is a contemplative chamber that evokes the spirit of its historic precedents. ■

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The Making o

How economics, politics, ambition, and architecture finally converged at New York's Columbus Circle to create a $2.2 billion building



1950. Robert Moses uses his powers to condemn the Columbus Circle site (left) for housing. In the process, 59th Street (center of photo) is vacated. The price of the land is $9.5 million.

By Charles Linn, FAIA, and Alan Joch

AOL Time Warner Center

While the world's attention was riveted on plans for Ground Zero during the past year and a half, something extraordinary has been happening at Columbus Circle: The largest, most expensive multiuse development to have been constructed in New York City since Rockefeller Center has rapidly taken shape. This story is about architecture, certainly, but more to the point, it is the story of the economic forces behind the design of a building that is certain to permanently alter the face of life in the city.

Although the scale of AOL Time Warner Center dwarfs most projects, this story provides an unparalleled view of the many things that influence the ways in which all kinds of buildings get built. When complete, the complex will include the world headquarters of a major corporation; 211,000 square feet of additional office space; three jazz performance halls; almost 200 luxury condominiums; a high-end retail mall; and a 251-room, five-star hotel. That mix is indicative of the prosperous times in which the building was conceived, the period of heady optimism driven by the fiery New York economy immediately preceding the turn of the millennium, when flush lenders prowled for borrowers and plied them with low-interest financing. Rigorous demands by city government and a public ill at ease with development forced the developer and his architect to take many long- and short-odds risks as they conceived what would be built on the most significant piece of real estate to become available for development here in decades.

In the beginning, there was Moses

Under the 28,000 tons of steel girders and columns that provide the skeleton of these 750-foot-high towers, one can still feel the ghost of one of New York's greatest legends lurking in the shadows. In 1950, Robert Moses used his unprecedented power as chairman of both the Triborough Bridge and Tunnel Authority (today a subsidiary of the Metropolitan Transit Authority) and the Mayor's Committee on Slum Clearance to condemn the two blocks that lay between 58th and 60th Streets west of Columbus Circle. Under Federal Title I urban development laws, he could take those two blocks, vacate 59th Street, which aligned with Central Park South across the circle, and put up housing there. The Feds paid $6 million of the $9.5 million cost for the property and constructed a pair of modest apartment buildings on the west half of the site.

Moses often used laws intended to do one thing to accomplish something else, and this was no exception. The real purpose of his bureaucratic machinations was to create a piece of land on which to build a monumental investment vehicle for the millions of nickels he'd been collecting on New York's tollways. It was the New York Coliseum, a four-level, 595,000-square-foot exhibition hall over a 303,000-square-foot parking garage, flanked by a 660,000-square-foot, 20-story office building. When critics complained that the building was bland, Moses wrote in a letter to the *Herald Tribune* that the building was not a "competition for a civic monument for civic virtue," but "a business venture."

People have been fighting over the site ever since, and for good reason. In New York, a two-block-wide piece of unbroken frontage virtually never comes up for private development, and this one has location, location, location. The A, B, C, D, 1, and 9 subway trains all stop below Columbus Circle. Four major streets—Eighth Avenue, Broadway, Central Park South, and Central Park West—converge there. The southwest corner of Central Park sits across the street; Lincoln Center is a few short blocks away to the north, as is the Times Square district to the south. Each of these factors adds to the value of the site. Any developer who builds here will, for starters, have to put up a jewel of a building to get the approval of the city planning department and community groups.

The prominence of the site and its unique shape challenge city planners, the developer, and architect far more than if the site were still divided by 59th Street. If one could simply fill the two parcels across the street from one another with, say, an office building and a hotel, life would be simplified immeasurably. But it does not make economic sense to fill the much larger site Moses created with a single building type. Any developer awarded the right to build must decide what uses will create the most bene-

Alan Joch is a business writer who lives in Francestown, New Hampshire. Steve Greechie of the McGraw-Hill Business Information Center provided research.



1954. With 59th Street gone, two full blocks of Columbus Circle frontage are available for the New York Coliseum (left). Today, the AOL Time Warner Center is under construction here.



1955. Frank Lloyd Wright with Robert Moses at the New York Coliseum in November. Wright says of Leon and Lionel Levy's bland, utilitarian style for the building, "It's all right for New York, but I hope it stays here."

ficial commercial synergies, and how many hundreds of thousands of square feet to devote to each. The next task would be coming up with enough cash to get started, and enough commitments from prospective tenants to convince lenders to loan the rest.

The building itself would have to be constructed for a reasonable cost and yet be attractive enough and of high enough quality that consumers would shop here and eat in its restaurants, that guests would stay in the hotel, and that prospective residents would buy the condos. Rents must be high enough to allow the developer, or the building's eventual owner, to cover the costs of land, construction, building operation, debt service, taxes, and utilities, and hopefully also generate a profit. Any miscalculation could mean financial doom for investors and create serious consequences for the city. This is one place where it would be very hard to hide a white elephant.



Steve Ross, chairman and C.E.O. of The Related Companies, won the right to develop the site. He says of the AOL Time Warner Center, "Whatever I do in life, I'll be known for having built this building."

And then there was Steve Ross

Decades later, Steve Ross, chairman and C.E.O. of The Related Companies, assumed Moses's mantle as master of the site and today is building AOL Time Warner Center there. Like all successful developers, he knows that large real estate projects live or die depending on how well developers recognize and ride the prevailing economic waves. "You're only as good as the economy allows," he says from his office on Madison Avenue, within eyeshot of AOL Time Warner's burgeoning towers.

A decade earlier, while the local economy struggled to grow, Ross was already thinking about developing the property. But in a way that shows how intricately developers' ambitions are linked to economic cycles, he was not considering a Rockefeller Center–class facility. "For 17 years, he had been staring at this site," says Marty Burger, executive vice president of Related and "the deal guy" who negotiated much of the financing for AOL Time Warner Center. "At one point, when the Coliseum was vacant, Steven said, 'For 10 years, let's put a Kmart there,'" until the time was right to develop it.

But by 1997, when The Related Companies, along with the Palladium Company and Apollo Real Estate Advisors, were putting their proposal together, high-end development was starting to make sense. Ross believed that with money in great supply, dollars would naturally flow to super-premium luxury construction, whether the tenant was retail, residential, or corporate. "When you're in a good economy, you're going to make more money at the luxury level than if you do something secondary," he says. Suddenly, even the hundreds of millions of dollars a developer would have to pay for Moses's 3.4-acre site seemed justifiable, as did the construction of the kind of architecture necessary to attract high-end tenants.

When Related won approval from the city of New York to become the lead developer of the former Coliseum site in 1998, the city was thriving. Billions of investor dollars were pouring into the new "tech economy," inflation was low, and interest rates were dropping. The stock market was booming, and so was tourism. Not only could people dream of great things, but if they had access to capital, they could do them, too. "The project grew into the economy. This is not something you would do in a poor economy. If they issued an RFP today, you wouldn't end up with this type of development," Ross says.

But he also knew that there was much more at stake. "This wasn't just another site, it was the most important site in New York. We had an opportunity to build something, and no one would ever have an opportunity like this anywhere else in the world. Whatever I do in life, I'll be known for having built this building." And that placed a heavy burden on Ross, because his project will be measured not just against itself—it will be measured by how miserably others failed when they attempted to build here.

The back story

Understanding why others failed to build here is important because it shows how money, politics, and changes in the economy influence what gets built. New York Coliseum was already obsolete when the Jacob Javits Convention Center opened on Manhattan's West Side in April of 1986, and speculation about what would go up on Columbus Circle had been going on for years. Apparently things at the MTA hadn't changed much since 1950, when Moses wrote that the Coliseum was just a business venture. The city and the MTA were going to divvy up the proceeds, and they were desperate for cash: the



1986. The opening of the Javits Center makes the Coliseum obsolete. The MTA and New York City put development rights for the site up for bids. The New York Land Company submits the high bid for the site and proposes a huge building complex (left) by Swanke Hayden Connell. Its offer for the site is $477 million.



Boston Properties' winning bid comes with this 925-foot-tall scheme by Moshe Safdie. Critics hate it, but the city finds Boston's deal with Salomon Brothers to lease and finance the project irresistible. Its offer is $455 million.

city to balance its budget, the MTA for funds to fix the ailing subways. The RFPs issued by the agency and the city stated that the proposals would be considered, first, upon how much money would be gained on the sale of the site; second, the proposals' economic viability. The benefit of each proposal to the city itself would be considered last. To sweeten the deal for themselves, the city and MTA required that proposals be based on a floor-to-area ratio (FAR) of 18—a 20 percent bonus over the FAR of 15 that zoning regulations allowed for the site—in exchange for $57 million for subway improvements. This meant that the price paid for the site would be high, and the building that would be built there would have to be huge, to pay for the land.

The New York Land Company, with its proposed design by Swanke Hayden Connell, had the high bid of $477 million for the land and the right to develop it. But Boston Properties, which bid $455 million, got the deal. Boston, led by real estate and media magnate Mortimer Zuckerman, had partnered with Philbro-Salomon, a financial services company, which agreed to lease half of the proposed building for 15 years. Its subsidiary, Salomon Brothers, had committed to finance the entire project. It was a low-risk deal for the city, which agreed to pay the MTA the $22 million difference between the high and low bids. Boston's winning proposal for the site featured a building designed by Moshe Safdie. It boasted twin towers of 68 and 58 stories, the taller topping out at 925 feet high. Almost 2.7 million square feet was packed inside. The building would have offices, retail, a hotel, and condominiums.

Paul Goldberger, then *The New York Times*' architecture critic, repeatedly attacked the design, writing at one point that it was "an arrogantly sculpted form, bearing little relationship to anything around it. Its abstraction seemed only to heighten the sense that this was a project imposed on New York City." But most of his wrath was reserved for city government. He wrote, "At Columbus Circle, the municipality abandoned all pretense of being a protector of the public interest … worse, it has goaded private developers on, pushing them toward bigger buildings when sensible planning judgement called for smaller ones."



Speaking of how the economic forces behind development change over time, David Childs of SOM says, "If we could do it over again today and build it instantly, Steve Ross would have a very different building."

The project unleashed anger about the unbridled overdevelopment of the city that had been growing for years. The Municipal Arts Society and other groups sued to stop the project, charging its overwhelming scale would exacerbate existing traffic and pollution problems at Columbus Circle. Hundreds of New Yorkers, including Jacqueline Kennedy Onassis, protested the soaring towers and the shadows they would cast across Central Park, by tracing the towers' outline with a mass of open black umbrellas.

Eventually an economic crisis added to Boston Properties' frustrations, and the bad publicity and delays began to fray its relationship with Salomon Brothers. When the stock market crashed in October of 1987, the financiers began desperately to search for a way out of the deal. They would eventually pay Boston $95 million to end it. In December of 1987, acting New York Supreme Court Justice Edward H. Lerner decided in favor of the Municipal Arts Society, ruling that the city could not "sell" a FAR bonus to get cash to improve the subways.

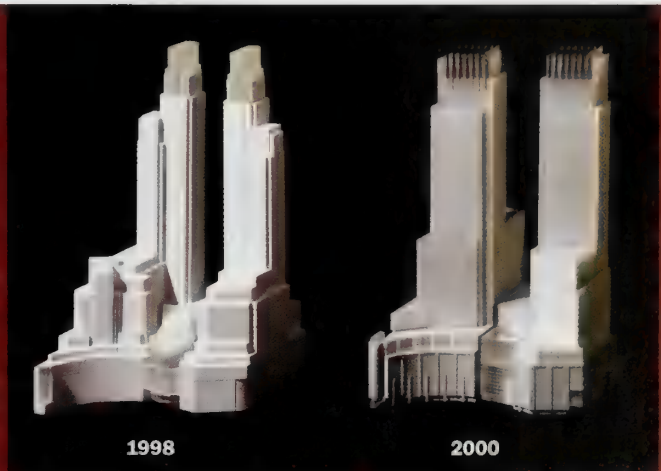
Late in 1987, Moshe Safdie resigned. Boston Properties hired David Childs, FAIA, of Skidmore, Owings & Merrill, to design a new building. Childs's first proposed design had retail with housing above it and was said to have taken its cues from apartment buildings on Central Park West. With the 20 percent FAR bonus thrown out by the courts, its height and bulk was reduced. The FAR dropped to 14.2, and Boston renegotiated a price for the property. It dropped by $98 million, to $357 million. As the community continued to protest the building, and the housing market bottomed out, Childs redesigned again, this time for offices and no housing. That scheme, with a FAR of 12, was shorter still and 620,000 square feet smaller than Safdie's original design. While the cash-strapped city and the MTA stood by, thinking of what might have been, the price for one of its most unique assets dropped yet again, this time to $337 million.

But problems with the project didn't end here. As the economy languished, the MTA, the city, developers, and community groups continued to wrangle with each other in court for the next half-decade. By 1994, Boston Properties' megastructure



1988

1987–94. As the economy crashes, the courts force Boston Properties to scale down its project. Safdie departs, and David Childs produces the first of several versions (left). Site price is $355 million, then $335 million. When Boston finally quits in 1994, the price for half the parcel it originally won is down to $100 million.



1998 2000

1996–2000. The city starts over. Steve Ross's and the Related Companies' winning bid uses a Childs design based on earlier work for Boston Properties (middle left). Related's offer for the site is $345 million, $110 million less than Boston Properties' winning 1986 bid. In 2000, SOM redesigned the project (left).

had devolved into an office tower that would have been built north of the MTA's 40-year-old office building, which would remain. The MTA had agreed to give Boston Properties half of the site it had originally won for less than a quarter of the original price, $100 million, and the city had agreed to pay $20 million of that. In July of that year, after suing each other over delays and broken promises, Boston Properties finally gave up. It paid the city $17 million to get out of the deal once and for all.

In 1996, the city started the development process from scratch, this time trying much harder to ensure that what was built would be worthy of the unique site. A new RFP established a basic building envelope and footprint for the development and mandated that the winner of the RFP would be bound to construct a mixed-use facility there. The RFP was quite specific about the shape and size of the building. In general, the east streetwall would follow the shape of Columbus Circle, and it had to be between 85 and 150 feet tall. Two towers would be allowed as long as they were less than 750 feet tall, were at least 65 feet apart, and preserved the view corridor west from Central Park South. "We had a little flexibility within that envelope, but that's basically what it was," recalls Bruce Warwick, president and C.O.O. of AOL Columbus Centre LLC, a company established to manage the project.

The city also insisted on one other condition: Developers couldn't seek any tax breaks. "This site would have been eligible for certain breaks, but the city made it a requirement, during bidding, that we not seek incentives," says Burger. "These would have been substantial. We determined our bid based on the assumption that there wouldn't be any incentives."

Every high-profile developer in town sought the property, including Donald Trump, Millennium Partners, Corporate Realty Partners, and a dozen others. At the time, developers speculated in the press that the land would go for $150 to $200 million. In May of 1997, five firms were shortlisted. When it was rumored that Millennium was close to getting the deal, Mayor Rudolf Giuliani stepped forward and insisted on one more thing: The core and shell of a performing arts center would have to be incorporated into the design. He deemed that the developer would bear all but $1 of its cost. Hughlyn Fierce, president and chief executive of Jazz at Lincoln Center (JLC) argued that JLC would attract more people to the development than, say, opera, and could successfully raise the money to finish the space. JLC got it.



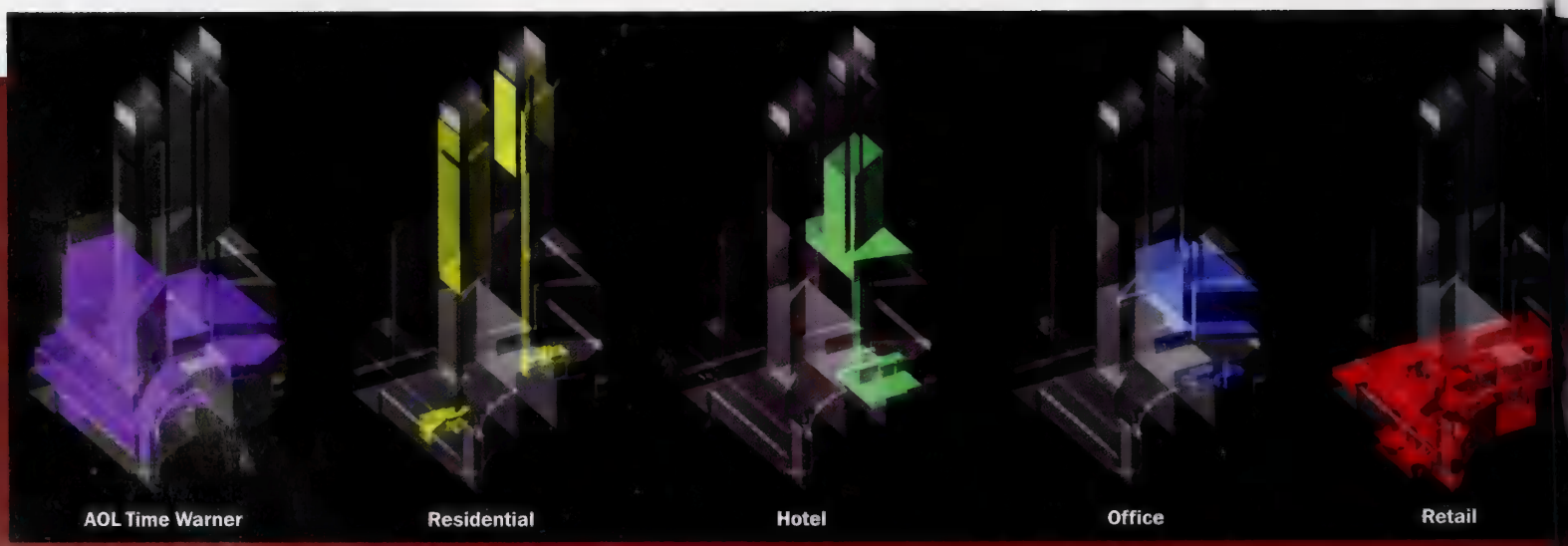
Steven Sommer, senior vice president of Bovis Lend Lease. The CMs tracked costs on over 1,000 line items for the project and had up to 1,800 workers on-site daily.

Related Properties' coup de grâce

By the time the last proposals were due, Related had gained a key strategic advantage. "We were one of first to recognize the resurgence of office demand in New York, so our plan was the heaviest on office space," says William Mack of Apollo Real Estate Advisors, one of Related's development partners. Sensing an opportunity, Steve Ross scheduled a meeting with Richard Parsons, then the president of Time Warner and now the chairman of AOL Time Warner. Ross thought the media powerhouse would bring Information Age cachet to his development, which would in turn attract financing and tenants. He was willing to make Time Warner's space into a loss-leader.

Ross recalls, "When I got there, Parsons said, 'Well, what are you here for?' I said, 'I'm here to talk about Columbus Circle.' He said, 'Every developer's been here. We don't need space. We have this building for 35 more years.'" Ross's strategy wasn't to pitch real estate, but to sell Parsons on the value of having a visible presence at this location, and in being an owner. "I told him, 'This is about showcasing your company. No one knows you exist at 75 Rockefeller Center. It's NBC's turf. The public's got to know what you own, and there's no better way to showcase it than here.' We hit a chord." Ross was talking about building an image, not about leasing space.

Image and public perception may have gotten the attention of Time Warner executives, but Ross recognized that a partnership with them would be the project's dealmaker. He gave Time Warner its 865,000 square feet of space *at cost*. It was able to claim the sections of the building that would be best for television broadcasting, an important criteria, since it planned to expand CNN's New York presence. "We wanted our broadcast operations to be in lower portions of the building because those floors have higher floor-to-floor heights than the upper floors," recalls Philip Pitruzzello, vice president of Real Estate Projects for AOL Time Warner. "Also, being lower to the ground looks better on television.



COURTESY SKIDMORE, OWINGS & MERRILL (THIS SPREAD)

You see some of the grittiness of urban New York."

For Related there was more to the prize than just finding a tenant that would give the project panache. "The MTA wanted surety of closing, and they were comfortable that Time Warner would stand behind us," says Marty Burger. "It took some of the risk out for us." The media giant would be putting up some of the early investment money. Related estimated development costs to be over $1.7 billion for the shell and core. "Finishes" would bring the cost up to $2.2 billion, but for the most part individual tenants would pay those expenses. During the bidding process, Related had gathered about $420 million from money it put up, as well as funds from Apollo, Time Warner, and Mandarin Oriental, a luxury hotel that had also bought in.

As good as the Time Warner deal was, Ross had one more ace up his sleeve. He had landed David Childs, who had been working on proposals for the site longer than any other person, as his architect. "I as much chose the developer as he chose me," says Childs. "Several people approached me, but Steve seemed to be the one who wanted to do a true mixed-use development, and that's what I thought the site really wanted to have." The design that was proposed, and ultimately won, was an evolved version of the schemes Childs had designed for Boston Properties in the mid-1980s. In August of 1998, with David Childs's building, and a bid of $345 million for the site, Ross and Related won the site.

Design, documents, and financing

Once the bid was won, the financial clock began ticking. The developers now had to race to get construction financing in place, get the rest of the building leased or sold, and get the shell and core built on an aggressive three-year schedule.

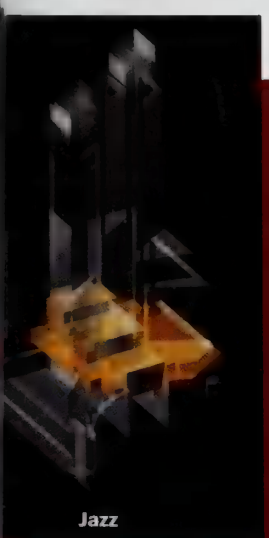
At the time, an internal debate developed within Related over whether to separately finance each component of the building—the retail, residential, office space, and so on—or to seek a lender who would provide the money for the entire structure. "We ultimately decided that it was the most efficient to finance as one unit, for the entire development," Burger says. Ken Himmel, president and C.E.O. of Related Urban Development made a presentation to the General Motors Acceptance Corporation (GMAC), the lending arm of General Motors. The developers decided the reason GMAC was interested in investing so heavily in such a large project was that Time Warner's presence had reduced the project's risks. The presentation later turned into a commitment to provide Related with a $1.3 billion construction loan, which closed in July 2001. It set a record as the biggest private construction loan in history.

But even though Related's proposal had been accepted, the design of the building had not been approved. The developers, SOM, and Mayor Giuliani's design advisory panel had tweaked the design until no one was happy with it. The idea of trying to jam the corporate headquarters of AOL Time Warner and Jazz at Lincoln Center into a form that had drawn much of its influence from a 1930s Central Park West apartment building was becoming more absurd all the time. Early in 2000, Childs and his partners, T.J. Gottesdiener and Mustafa K. Abandan, went back to the drawing board one more time to come up with a sleek glass building that was much better suited to the new century and the Information Age tenants who would occupy it. Everyone loved it.

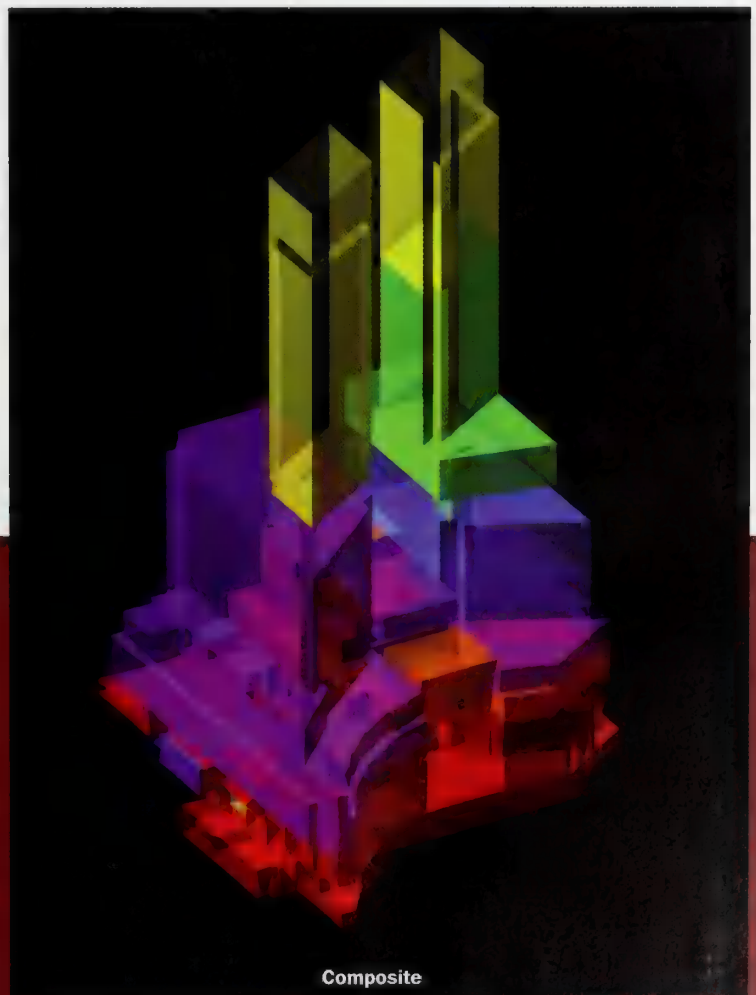
The balancing act: establishing optimal mixed-use ratios

After the appearance of the design was finally approved, it was time to decide how much area was going to be dedicated to each of the uses the developers had chosen to include in the building. "The building's envelope didn't change, but in the interrelationships of the stake holders and how their space worked for them, there was a great deal of change," Warwick recalls. "When you're putting a project of this scope together, you can't really anticipate all the requirements. You can say, 'Okay, you want a million square feet? You want this or that?' We'll put it all together and say, 'This is how it is going to look.' But then when you get into all the details, the interrelationships between tenants, and there was a tremendous amount of change."

For example, early thinking about the design considered a larger, 400-room hotel, which was ultimately reduced to 251 rooms, when the



Jazz



Composite

These drawings show how space is distributed throughout the new building. How much of each type would be included was based on Related's financial modeling of what mix of uses would produce the best rate of return over the project's life. SOM had very little to do with these decisions except to make the spaces fit inside the envelope. Related's best guesses about what kinds of space will be in demand in the future is nothing less than a prediction permanently fixed within the architecture of what New York's real estate market will be like.

developers decided to add more office space. "This was pure instinct on Steve Ross's part," says Burger. The developers believed that building office space was a better financial wager than hotel rooms. "A hotel is riskier because it is less like real estate and more like an operating company." But having a hotel in the complex makes it easier to sell condos, because owners can contract for housekeeping and concierge services from the hotel. And condo space, which can sell for $1,300 to $3,500 per square foot, is extremely profitable. "We felt we could get higher prices than anywhere in New York City," Burger says.

"The developers have a very difficult job because they are trying to pick something off with an unbelievable amount of fineness of detail about things that are way out in the future and cannot be predicted," says Childs. "If we could do it again today, and could build it instantly, I think that Steve would have a very different project." But to keep the project on schedule, at some point the developers have to stop modeling how the complex might perform financially, and let the architects design.



Hughlyn Fierce, president and chief executive of Jazz at Lincoln Center, is leading the effort to raise $128 million to complete JLC's three new performance venues.

Construction: where the money goes

The building phase presents a series of new challenges whose solutions will also determine the financial success—not to mention the aesthetic quality—of the project. In the summer of 2000, while the $20 million demolition of the Coliseum was underway, Related sought a construction manager (CM) to direct the project, act as the prime contractor, and negotiate deals with materials suppliers and subcontractors. It issued RFPs for this contract to Turner Construction, HRH Construction, and Bovis Lend Lease. Eventually, Bovis won the guaranteed-maximum-price (GMP) at-risk contract, which allowed for aggressive scheduling and gave it more flexibility in determining how the building would be built, potentially saving money for Related while improving its own profit margin.

The GMP contract negotiations were based on SOM's detailed, but not final, construction drawings. Estimating the job using complete bidding documents would have got Related a lower price, but the extra months of time taken to create a final set would have made the job much more expensive overall. "There is a magic moment," says David Childs, "when you stop drawing and start negotiating." While not having every detail nailed down saves time, there is a certain amount of risk involved for everyone, especially the design team. Certain problems that might be anticipated by a full set of drawings can go undetected. The CM and developer certainly face the temptation to cut costs in ways that will compromise the quality of the building and that the architect will not agree with. "But that's where trust and mutual respect between the owner, the CM, and the architect comes in. You can't do this kind of contract without a lot of trust," says Childs.

Bovis was to build "shell and core," which includes the structural system; fenestration; waterproofing; vertical transportation; mechanical, plumbing, and electrical systems; site work; and the fit-out of the public spaces in the retail section. Also included were the fit-outs for the condos and the Mandarin Oriental Hotel, whose interior architecture is being designed by Brennan Beer Gorman Architects. Bovis is also responsible for building the "acoustical box" that will house Jazz at Lincoln Center, whose fit-out is being designed by Raphael Viñoly. To further complicate the work, Elkus/Manfredi is designing the retail space, and HLW International is responsible for AOL Time Warner.

According Steven Sommer, senior vice president of Bovis, labor and materials costs were estimated to total about $675 million. The CM then added $65 million in salaries for its staff, which at its height employed 110 people, plus expenses such as site cleanup, surveying, and construction



The street that starts in the lower left corner of the rendering and extends toward Columbus Circle is Central Park South. The space between the towers extends the street's view corridor into the western sky. Central Park occupies the rendering's lower right corner.

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scaffolding. On top of the estimated expenses, Bovis added a $13 million service fee, just under 2 percent of the construction costs, which formally represents its profit margin. Thus, the initial total worth of the contract for Bovis was $753 million, or about 34 percent of the shell and core costs. Other costs—land, legal fees, architectural and engineering fees, marketing, insurance, the $20 million restoration of the Columbus Circle garden, and so on—were paid by Related.

The $13 million service fee represents an on-paper profit, because it could grow or decline depending on how Bovis played conditions relating to materials costs and labor. According to Sommer, the GMP contains approximately 1,000 different line items with estimated costs for everything from structural steel to bathroom fixtures. Bovis derived many of these estimates while the drawings were still evolving, and cost estimates were educated guesses. "At the time we created the GMP, we didn't have any information about the finishes in the hotel or the finishes in any of the lobbies," Sommer recalls. "So we based our estimates on a specific lobby being, say, 5,000 square feet in area, and we might say, 'This feels like a $350-a-square-foot fit-out allowance' based on the finish costs of another Manhattan building Bovis recently completed." For the total $753 million GMP, Bovis included $127 million in allowances, "so we had a good amount of 'swag,' " Sommer says.

This flexibility also gave Bovis room to take advantage of market swings. It developed the contract during the last phase of a superheated up-cycle. "When we took this job in 2000, we didn't know how we were going to man it, we were so busy," says Sommer. "And materials prices were high." But when it came time to lock in prices for materials that would be delivered over the next two years, the 9/11 terrorist attacks and a faltering national economy were starting to drive prices down. "When you combine where the state of the economy was at that time with the size of this project, we were buying very aggressively," Sommer recalls.

Another factor that worked in favor of Bovis and the developers is that the size of the AOL Time Warner Center job, which at times employed 1,800 people at the site each day, was its own economic engine. "When you're negotiating a major contract with subcontractors and trade contractors, they recognize that if they can get a piece of this, their books will be full for a good 12 to 24 months. They're interested in giving you the best price possible," he says. Putting subs under contract also dissipates the risks of price fluctuations. "I lock in a price based on a competitive bid," Sommer explains. "If there's an adjustment in the market, either up or down, the risk is not mine, it is the risk of the contractor." For contractors who purchased materials from overseas sources, Bovis's contract included a provision that required that the subs absorb the negative impact of currency fluctuations if they rose above a set amount, usually 10 or 15 percent of the contracted price. "I'll insist that the contractor accepts that risk—it's not my cost," Sommer explains.

Once contracts are in place for all the tradespeople and material, it's Bovis's job to make sure late deliveries, foul weather, design changes, and other glitches don't delay the project and increase costs. New York high-rise construction strategies rely on getting all the various trades to dance in step with the lead of the concrete trades. The optimum schedule is to pour a concrete floor every two days, an aggressive schedule that's about twice as fast as what tradespeople do in other U.S. cities. "If one of the trades falls behind, you have a domino effect."

AOL Time Warner defies economic gravity

The AOL Time Warner Center is scheduled to open in September of 2003, with tenants moving in at different times over the following year. While it will not be possible to judge whether the complex is a complete success for years, tenants are leasing space and condos are selling in spite of the economy. People often ask whether AOL Time Warner itself might back out, but this isn't likely to happen. They own their space. The Related Companies is itself occupying space in the north tower, and Jazz at Lincoln Center has been successful at raising funds to finish its space. Some question remains whether shoppers will travel to the top of the six-story retail space, but retailers are gambling that JLC, at the mall's zenith, will pull them there. The retail section of the building has commitments from Whole Foods Market, an upscale grocery store; specialty shops like Williams Sonoma, Godiva, and the watch retailer, Tourneau; clothing retailers like Hugo Boss, Coach, A/X Armani Exchange, J. Crew, and Equinox, an upscale gym.

But, at this point, much of the risk would no longer seem to be Related's problem, anyway. In February, MacFarlane Partners, in partnership with the California Public Employees' Retirement System, agreed to purchase a 49.5 percent share of AOL Time Warner Center. The cost is between $425 and $500 million, including 211,000 square feet of office space; 347,000 square feet of retail space, and the 504-space parking garage, which, with the high price of parking in New York, is a cash cow. The partnership is also assuming $359 million of the $1.4 billion commercial mortgage loan.

As of this spring, about 40 percent of the condo space had been sold, according to Susan de França, senior vice president for The Related Companies. As a testament to that resiliency, Related has increased its condo prices a total of about 15 percent since 2001. Units range from relatively modest 1,380-square-foot condos selling for around $1.8 million to expansive, 8,400-square-foot penthouses costing $30 million.

Looking ahead: lessons for Ground Zero

As Ground Zero's stakeholders begin piecing together the puzzle of how it will be developed, they might learn something by looking at this 17-year journey. Even when a program is relatively well defined and there seems to be a market for what the city and developers agree should be built—which is not, so far, the case at Ground Zero—public pressure and rapid shifts in the economy can produce sea changes. A design that seems to be a sure thing at one point can be replaced by something that looks nothing like it. And when something finally gets built, it is because developers and financiers, market forces, political consensus, and architecture converge at one point in time. As David Childs, a veteran of this process says, a lot of it is just luck.

The AOL Time Warner Center is as much a symbol of the resilience of New York as everyone wants the Libeskind scheme at Ground Zero to be. It was conceived in the pre-9/11 world, when economic exuberance reined. After the terrorist attacks, the developers were forced to rethink their plans. They could have settled on something less grand, but they pressed on. As those involved at Ground Zero embark on the battles to come, AOL Time Warner Center with its new twin towers is testimony of how the people of the city can overcome great obstacles to get on with life. ■



This aerial perspective looks southward toward Midtown and shows how AOL Time Warner Center's streetwall wraps around the southwest side of Columbus Circle. Ground Zero lies at the upper right corner of the rendering.

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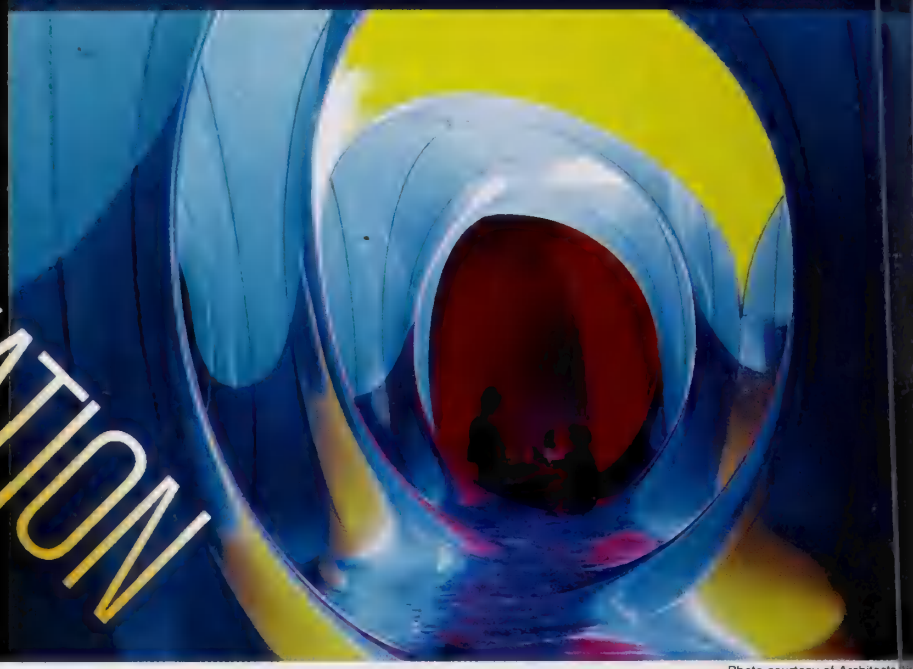


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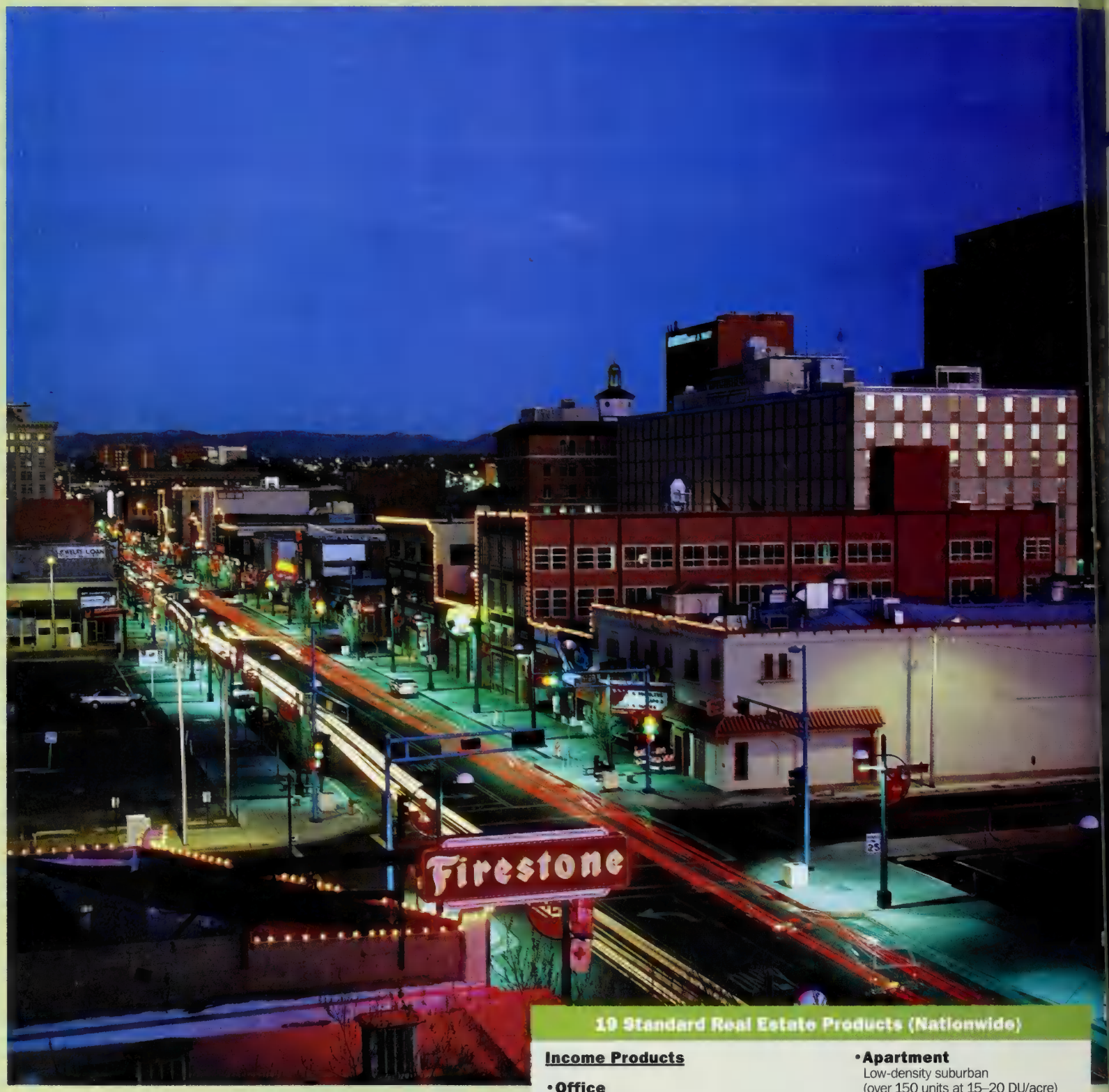
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Recovering the Route 66 glitz of Central Avenue in Albuquerque (above) didn't fit today's rigid spec "product" categories (right). Fixing Albuquerque meant lengthening investment cycles that drive low up-front investment (opposite).

Leading the Money

By James S. Russell, AIA

A new method for financing real estate could place architectural quality center stage. Can the hidebound real estate industry change?

For decades architects have been told they need to learn where the bottom line is and to adapt their aesthetic quests to the tastes of buyers and renters. But as they've done so, few have earned greater trust from their developer clients. Few are asked to innovate, to try new forms of expression, or to plan in a less sprawl-inducing manner.

In most kinds of business there are commodity suppliers and people who seek an edge by delivering something special, new, innovative, intriguing. But real estate development today doesn't work that way. Uniqueness, innovation, and long-term durability have pretty much been driven out of the real estate calculation. Since these are the very qualities architects bring to the table, they find themselves marginalized in the construction segment that, at least in square-footage terms, builds most of America.

It wasn't always so, according to Christopher Leinberger. "We marvel at the architectural design and quality of construction seen in the great retail emporiums, apartments buildings, and office blocks built before World War II," he says. "We think of those builders as possessing immensely greater wealth than we have. In reality, the country's per capita gross domestic product is three times higher today in real terms than in, say, the 1920s."

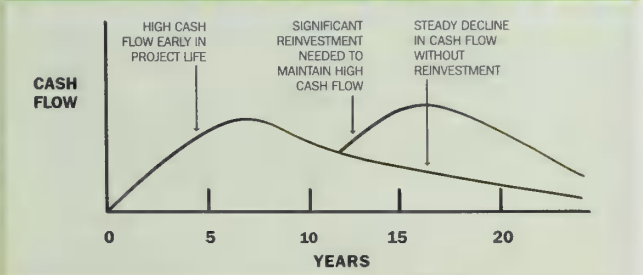
Leinberger is convinced that innovation and higher quality belong in the real estate development process and that they can be valued—but not under the real estate–finance assumptions that apply today. The real difference between the prewar era and now, he contends, is that investors then expected to reap their rewards over a very long time—and did.

He offers a unique perspective. From 1981 until he sold his stake in the real estate consulting firm Robert Charles Lessor three years ago, Leinberger frequently advised clients to get out of declining downtowns and into shiny-windowed office parks on the outer beltways. ("The market was saying move out, and I was often quoted on that," he confirms.) He was one of the first to identify the suburban edge-city trend.

And yet he could not ignore the price premium commanded by such pioneering New Urbanist developments as Seaside, in Florida, which Robert Davis begat 21 years ago. Seaside, declares Leinberger, "turned the Redneck Riviera into the Hamptons of the Southeast." He also approves of Prairie Crossing, an hour's drive northwest of Chicago, where homes in the farmland-preserving development sell at a 40 percent premium.

Moved by such examples, Leinberger decided to get deeper into development himself. Now he is a partner in Albuquerque-based Arcadia Land Company, which he founded in 1997 with Seaside's Davis and James Duckworth of Philadelphia.

Conventional Development Investment Cycle



Real estate as commodity

Leinberger discovered, as previous New Urbanist developers have, that lenders don't like high densities, even when they are pedestrian-friendly. They couldn't value the mix of housing-unit types. And they couldn't reconcile the mixing of retail and residential uses that is key to these projects' character and their aspiration to reduce traffic and parking.

Determined to find out why what seemed to make good sense for communities seemed to make no sense to lenders, he set about categorizing the kinds of projects that could qualify for conventional financing. He found that they fell into only 19 highly simplistic, rigidly prescribed real estate "products" (see chart, opposite). Only such formulaic development could obtain competitive financing terms.

For lenders, requiring developers to build familiar product types is both a reaction to the overbuilding of the 1980s and a sign of the increasing influence of Wall Street on real estate finance

UNDERWRITING ALBUQUERQUE'S REVIVAL

Leinberger has sliced up the financing of the six-block infill project in Albuquerque both to create early momentum and to operate with more equity up-front. The Historic District Improvement Company (HDIC), a joint venture 75 percent owned by Leinberger's Arcadia Land Company, brought in conventional real estate investors, who will realize quick returns in the first time tranche, from four to six years. HDIC will share second tranche revenues (years six to 12) with its "patient money" investor, the McCune Charitable Foundation, which funds social services and arts programs throughout New Mexico. The foundation's long-term goals permit it to receive revenues later, as long as they are greater than short term gains. The nature of the investment is also consistent with its mission.

The city of Albuquerque is a third tranche investor, putting in dollars up front, primarily by underwriting the construction of a parking structure. Rather than a subsidy or land write-down, the city reaps the benefits in the future: Between years six and 12, it gets 25 percent of the HDIC development's profits; between years 13 and 20, it gets 50 percent, plus all the growth in tax revenues.

To date, HDIC has rehabilitated the American Warehouse into a 40,000-square-foot nightclub combined with an artist loft space. "Urban entertainment and one-of-a-kind attractions build interest in downtown," explains Leinberger. "We put on festivals to get people to come down and take a look."

That's why the Century Theatre Block, an 110,000-square-foot, 14-screen movie theater came next. It's windowless mass was placed in the center of the block, wrapped with restaurants and retail and office space. Under conventional financing, Leinberger explains, it would have been a $10 million project, and he would have had to put in $2.5 million in equity. "To get the quality we need, we had to spend $14 million," he explains. "With patient money involved, we did not have to ask the banks for more money; we raised it as equity." With a higher building budget, the design of the 300-foot-long block fronts could be broken up to reflect the typical scale of historic downtown development. "We were able to change materials and window types along the blockfront," explains Bill Dennis, the architect with the local office of Moule & Polyzoides. "In conventional development, all the materials and all the windows would have been the same." One of Leinberger's early partners actually bowed out because it could not countenance the $80-per-square-foot building costs. Their cinder-block-box norm was $35. Now complete, the theater block is 93 percent leased at rents far higher than average for the area, says Leinberger.

The $5 million first phase of Crossroads, a 55,000-square-foot restaurant, retail, and office rehabilitation project, is complete, with the second, $6 million phase to break ground by the end of the year. A loft-residence building with ground-floor retail and a 176-unit rental apartment building are about to begin construction. Four more largely residential projects are in the pipeline.

The scale of the development has spurred the opening of nine new restaurants and additional new residential development. Without the financing scheme, "I don't think we would see redevelopment at all," says Dennis. "This downtown was clinically dead. I don't think it is yet over the hump, but it's close." *J.S.R.*



This retail and office building, by Moule & Polyzoides, gives prominence to an important corner and wraps a cinema's blank walls.

that began in the early 1990s. It's safer to underwrite well-understood, generic real estate "products" because, says Leinberger, "they've become graded and commodified—just like pork bellies." This systemic rigidity cannot value almost any kind of architectural grace or planning innovation. That is the reason that stores are made of cinder blocks plopped on vast acreages of asphalt, and condo developments must rely on a few tack-on domestic gestures for "curb appeal." And it is why real estate development differs in no important way anywhere in the country.

If you wonder why bank branches look like discount drugstores instead of the massive stone fortresses of yore, Leinberger can explain that, too. From a tax perspective, commercial real estate has long been treated as a 40-year asset class, which reflected the presumed useful life of the building. But that long-term focus has been undercut by an accounting methodology called discounted cash flow (DCF). DCF analysis, which came to be the standard means for evaluating real estate investments about 40 years ago, tends to show the highest internal rate of return in the first five years of a project's life. With this approach, it naturally follows that the primary way to ensure high short-term returns is



The Design Group architects placed 41 for-sale residences over a retail base in Albuquerque's Gold Avenue Lofts. Entirely presold, it will start construction this month.

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I AM PART #19

1. *Century Theatre Block (completed)*
2. *Parking structure (completed)*
3. *Gold Avenue Lofts*
4. *Silver Court (in design)*
5. *Alvarado Transportation Center (completed)*
6. *Alvarado Transportation Center (phase 2)*
7. *American Warehouse (completed)*
8. *Crossroads Block (completed)*
9. *Apartments and retail (construction imminent)*



HIDC is creating a critical mass of development by concentrating on a six-block area (regulatory plan by Moule & Polyzoides).

to reduce both hard and soft construction costs—decisions that typically translate into lower building quality.

DCF makes it particularly hard to justify mixed-use to lenders because the cash flows tend to peak much later than those for conventional developments (and require high capital investments every 15 years or so to keep performing; see chart, page 98). It is under DCF assumptions that buildings combining high amenity with low energy consumption multiply in Europe but don't pencil-out in the U.S.

The combination of lender-driven building-type rigidity and DCF-driven low-quality construction gives rise to the dispiriting growth that communities increasingly abhor. "All but two of the 19 conforming products create sprawl," says Leinberger.

A place for patient money

Leinberger has made Albuquerque a laboratory for a new finance methodology that could fundamentally change the real estate development process—and the architect's role in it. The city's downtown looks like many others in the American West: as if someone rolled asphalt over a couple of square miles, then dotted it with buildings here and there. Stroll its many pedestrian-free streets and behold an encyclopedia of failed urban-revitalization fads, like the empty pedestrian mall, the atrium skyscrapers riddled with vacant space, the underbooked convention center.

This scene has changed recently (see "Underwriting Albuquerque's Revival," page 100). Around Central Avenue (the old Route 66), $26 million of new commercial construction is in place. It is seeding new residential and mixed-use projects. In a downtown that had no new commercial construction in 15 years, Leinberger says a total of $120 million in work is built, about to begin construction, or in the pipeline.

The new methodology will reward those who build for the long term with innovation and quality as their cornerstones. Leinberger calls it "time tranching," a technique he borrowed from the Resolution Trust Corporation, the agency that found viable owners for all those early-1990s see-through towers left over from 1980s overbuilding. "Risk tranches emerged at that time as a way to grade assets so they could expeditiously be gotten off the books of banks and other lenders," he explains. Projects were sliced up according to risk, with the riskiest elements put first in line for repayment. And it worked.

With time tranches, says Leinberger, investors can participate in the income stream at various periods in a project's life, depending on their cash-flow needs. Not all investors need to get their money out in the five to seven years measured by DCF accounting. Pension funds, institutions, publicly held real estate investment trusts (REITs), and foundations often can benefit from investments that pay back over a much longer time horizon—the sixth to the 12th year, for example, or the period beyond the 12th year. "We believe those who take the mid- or long-term piece will find dividends that vastly exceed their expectations," says Leinberger.

In this way, time tranching can make low-cost capital available for projects that have higher than average initial construction costs. Although the architectural design (by Moule & Polyzoides) is in an aesthetically safe, arguably too-ubiquitous neotraditional mode, conventional lenders would have looked askance at the fact that it is infill development and entails a complex mix of uses. The Historic District Improvement Company (controlled primarily by Leinberger's Arcadia Land Company) needed to get parking structures built and a sense of momentum going, which involved high up-front investment.

Time tranching is not likely a panacea for the rictus that afflicts conventional real estate development, but it offers broader lessons for architects. They can make their vision for the future come true if they are willing to pair architectural invention with financial and regulatory innovation. In this way, you don't "follow the money," you lead it.

CONVENTIONAL REAL ESTATE ASSUMPTIONS DRIVE QUALITY DOWN IN A QUEST FOR QUICK RETURNS.

PLAN: © MOULE & POLYZOIDES

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The Century Theatre block was HDIC's first major investment. With its auditoriums wrapped by retail and offices, it seeded redevelopment in Albuquerque by drawing people downtown who had rarely visited.

Working the system

Leinberger was impressed by how patient money worked at Seaside. Davis intentionally developed slowly. Nor did he rush to cash out as Seaside's success grew. "By going slowly, I was able to capture the value we had created." With one-bedroom cottages now commanding million-dollar price tags, Davis's patience has clearly paid off.

Jonathan Rose, a developer of planned infill communities, is not a time-tranche convert, but he sees a larger role for architects willing to understand the real estate finance system and work creatively with it. "One way architects can be useful is by understanding the difference between a securitized mortgage and a Fannie Mae mortgage so that you can do solutions that are easier to finance." (Fannie Mae is a private agency, backed by the government, that purchases bundles of commercial mortgages.)

With even locally originated loans now being sold off through Wall Street, "a kid out of business school who thinks he knows credit risk" is analyzing your loan proposal, he says, and is, in effect, "setting the benchmark for development in America." This dumbed-down lending system means that projects must navigate obsolete standards for parking, and ratios of construction cost to land cost that make sense in exurban greenfield sites but not in infill, urban-revitalization ones.

If short-term economic uncertainty does not stretch into long-run recession, development trends suggest a higher interest in diversity and creativity. One of the reasons Leinberger has confidence in Albuquerque's long-term success is that downtown revitalization has become a well-established and widespread trend. "The countertrend to sprawl is that over the past 10 years a huge market for walkable communities has developed. So 60 percent of downtowns are coming back. And in a few years the rest will come back. Even downtown Detroit has 20 new projects in the market," he says. Recent research at Georgia Tech appears to support Leinberger. In the traffic-snarled Atlanta area, 37 percent of people surveyed would prefer to live in a walkable community, even though places to walk are all but nonexistent in new developments. This sentiment explains why prices in close-in older neighborhoods are increasing much more rapidly than prices regionwide. "Clearly there's a market failure," says Lawrence Frank, the principle investigator.

FINANCIAL AND REGULATORY INNOVATION CAN MAKE BETTER ARCHITECTURE POSSIBLE.

Downtown's renewed appeal also has to do with the aspirations of what economic-development professor Richard Florida calls "the creative class," sought after by employers and urban developers alike. They seek diversity, nightlife, and an authentic sense of place. Younger generations see the presence of gays, Florida argues in his book *The Rise of the Creative Class* (Basic Books), as a proxy for the diversity, openness, and creativity they seek where they live and work, even if they are not themselves gay. Savvy city developers likewise monitor housing decisions made by young artists, architects, and students. Their propensity to fix up downtrodden neighborhoods offers a reliable harbinger of renewal.

While an ample supply of landmark-quality old buildings offers good bones for urban revival, insightful developers have created value with new architecture. In Seaside's cash-poor early days, Davis still found money to erect elaborate follies to bridge the ocean dunes. They are the community's iconic landmarks, and Davis is mystified why developers don't understand their value: "They paid off by creating a strong sense of place." He kept adding these and similar idiosyncratic grace notes even after the community's success was assured.

There are other developers who are in it for more than the money. Like many architects, they see inventive development as strengthening communities and improving the environment. To be a socially committed architect is not enough, however. "Too many well-meaning people cannot even balance their own checkbooks," says Leinberger. If you can't focus on finance, he stresses, "you'll get blown away." ■

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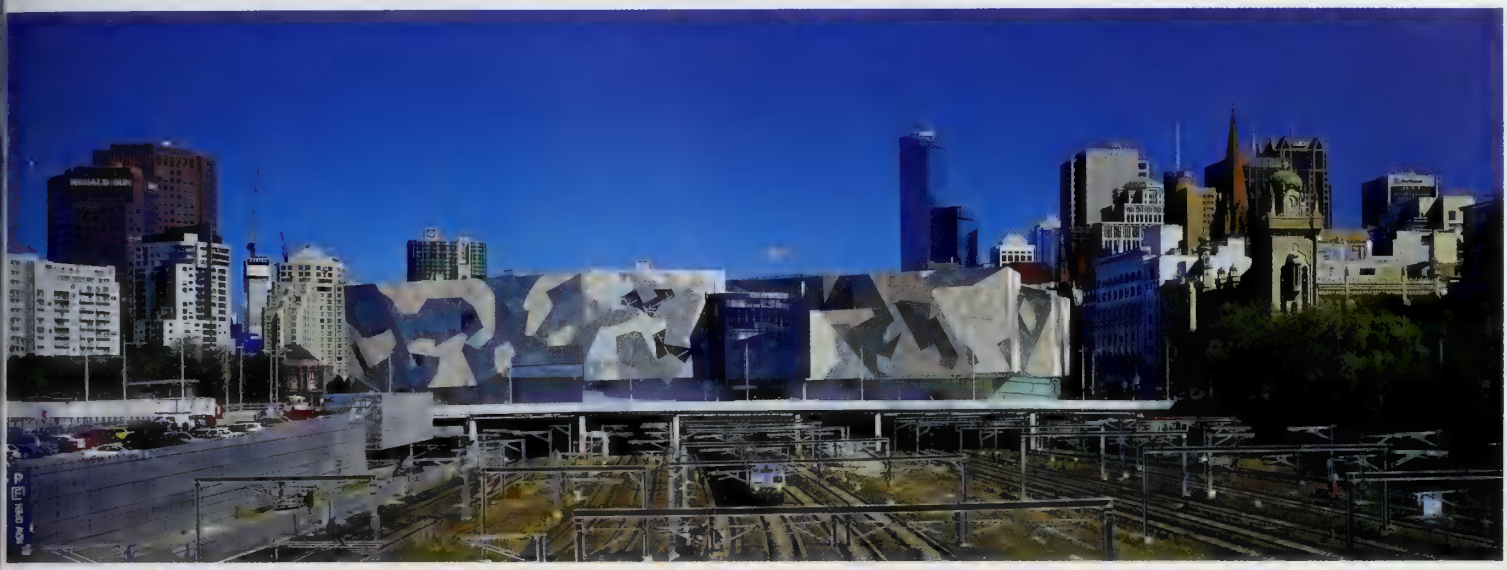


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Sandstone, zinc, and glass fractal facades give few clues to what lies within (this page). A new plaza deck extends across the railroad lines to one side (opposite).

The undulating **FEDERATION SQUARE**, designed by **Lab Architecture**, mirrors the city and country through dissonance and harmony



By Charles Jencks

In the 1960s, American architects took on the question of cultural pluralism and fashioned a new architecture from it. Robert Venturi's "complexity and contradiction" was the most notable statement of this shift, but it had different adherents, varying from the iconic populism of Charles Moore to the ad hoc informality of Frank Gehry to the eclectic classicism of Michael Graves. By the 1990s, these Postmodern currents had become so commercialized as to lead to a neoconservative backlash, a kind of Minimalist *genre de vie* that, however boring, at least had the virtue of being unnoticeable.

The argument for pluralism and difference in architecture moved out of the U.S. and landed, of all places, in the genteel former colony of Australia, where in 2001 the country celebrated its centenary and its Federation: that is, the semiautonomy of its eight different states and the ethnic variety of its diverse population. As a consequence of these millennial projects, the counterculture of the '60s was reborn, at least as architectural expression, with a vigor it had never quite realized before. Now, for the first time, architects were asked to express ethnic diversity and the tangled path of a national identity based on the suppression of minorities, and to do this right in the center of downtown on a major public building.

The two main exemplars of this development are the National Museum of Australia in Canberra, by Ashton, Raggatt and McDougall, perhaps the most extreme version of collage and contradiction as a receptacle of cultural pluralism; and the aptly named Federation Square in Melbourne, again a conglomerate building designed by a diverse team, Lab from Britain, Bates Smart from Australia, and landscape architects Karres en Brands from Holland. In these two monuments, Australia summarizes the ideas of American Postmodernism and develops them in a new direction: toward extreme fragmentation and the blurring of difference. Federation Square, in particular, aims at what its designers call "coherence out of difference," a typical phrase of younger architects leading the new paradigm.

This concept, also adopted by Foreign Office Architects (FOA), Greg Lynn, Jeff Kipnis, and many of the Dutch architects today, is understood as an alternative to Venturi's "contradiction and collage." Where pluralism used to result in conflicting geometries, oppositional aesthetics, and eclectic difference, the new digital generation is intent on showing it can be handled equally well by coherently varying the grammar of smaller parts. In effect, a fractal architecture of supple variation can be more subtly unified—hence "coherent"—than an amalgam of disparate parts, while still honoring pluralism.

Such is the argument of Federation Square. It faces the gridded Melbourne of Modernist skyscrapers, revivalist cathedrals, and 19th-cen-

Charles Jencks's The New Paradigm in Architecture *has recently been published by Yale University Press.*

Project: *Federation Square, Melbourne, Australia*
Architect: *Lab Architecture Studio—Bates Smart (associate architect); Donald L. Bates + Peter Davidson, principal architects; Tony Allen, project director*
Landscape architect: *Karres en Brands*
Civil/structural engineer: *Hyder Consulting*
Civil engineer: *Connell Wagner*
Structural/facade engineer: *Atelier One*
Structural engineer: *Bonacci Group*
Environmental engineer: *Atelier Ten*


CHANGED
TRAFFIC
CONDITIONS
AHEAD



The basic facade modules are triangular tiles, in which five tiles make up one panel and five panels comprise a larger cladding unit. These standard components reflect a high degree of asymmetry and variability.



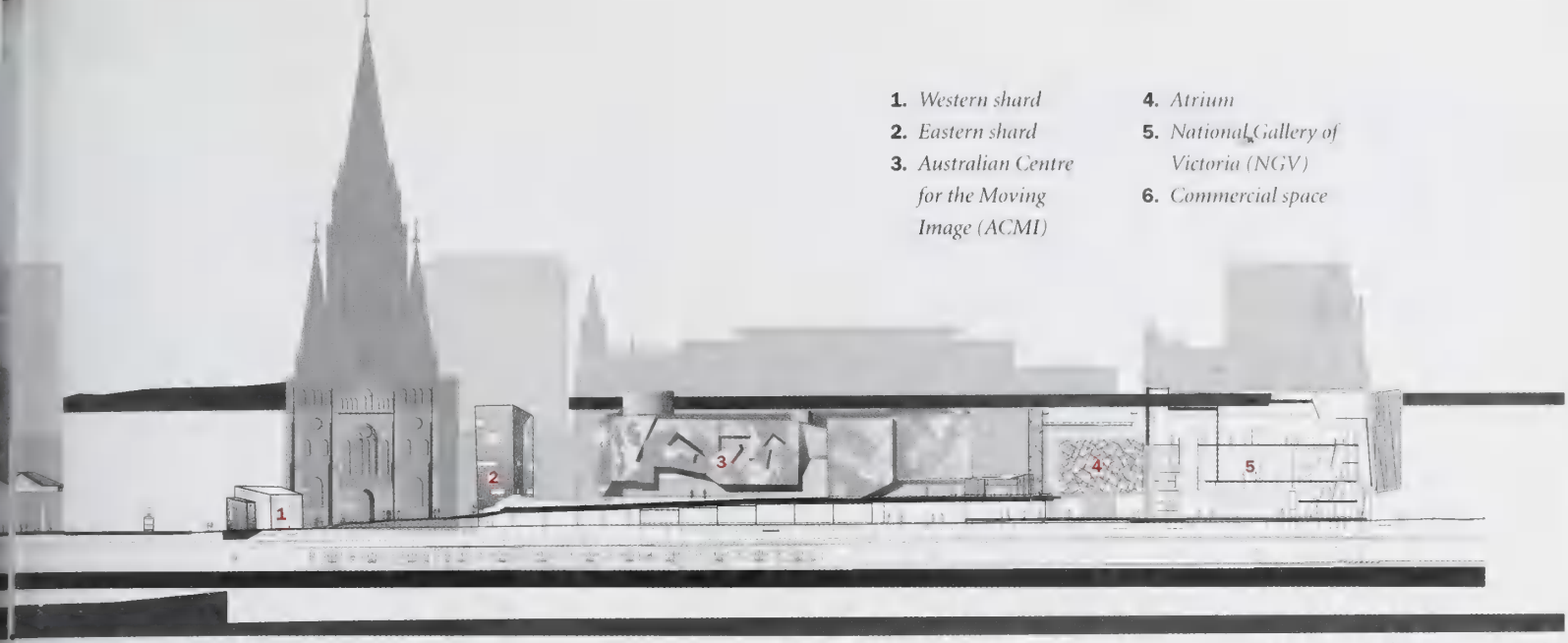
LEVEL TWO COMPOSITE

1. *Plaza*
2. *St. Paul's Court*
3. *North atrium*
4. *South atrium, amphitheater*
5. *Australian Centre for the Moving Image (ACMI)*
6. *ACMI cinema*
7. *ACMI offices*
8. *National Gallery of Victoria (NGV) circulation*
9. *NGV's Museum of Australian Art*
10. *Crossbar building*
11. *Crossbar offices*
12. *Yarra Building*
13. *Pub*
14. *Winebar*



Federation Square is a place of transformation—facing Melbourne's skyscrapers and revivalist cathedrals on one side, straddling a railroad station on the other, with the River Yarra flowing on yet another side near a picturesque English-landscape park (this page). The plaza is surfaced in cobblestones of distinctly colored Kimberley sandstone (opposite).

1. *Western shard*
2. *Eastern shard*
3. *Australian Centre for the Moving Image (ACMI)*
4. *Atrium*
5. *National Gallery of Victoria (NGV)*
6. *Commercial space*



SECTION A-A

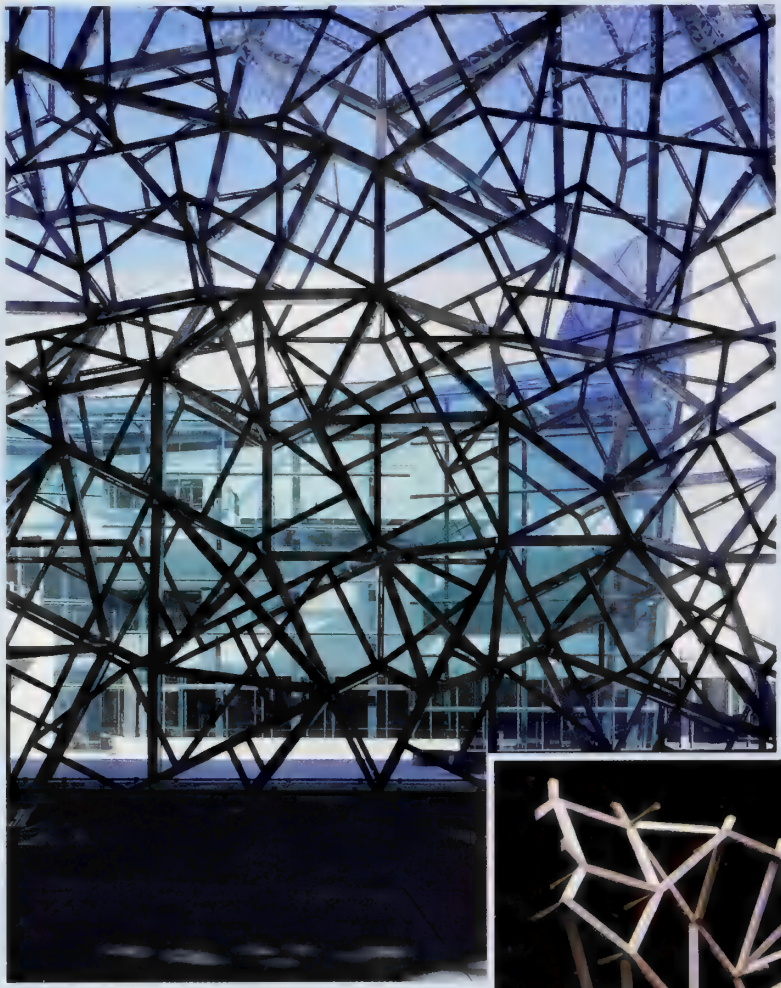
0 30 FT. 9 M.

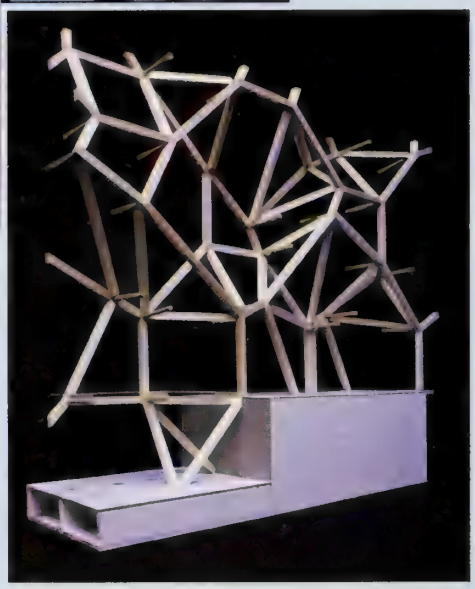


SECTION B-B

0 50 FT. 15 M.







View from inside the north atrium looking out through a folded 3D glass structure (above). Primary frame development model of the atrium structure (right).

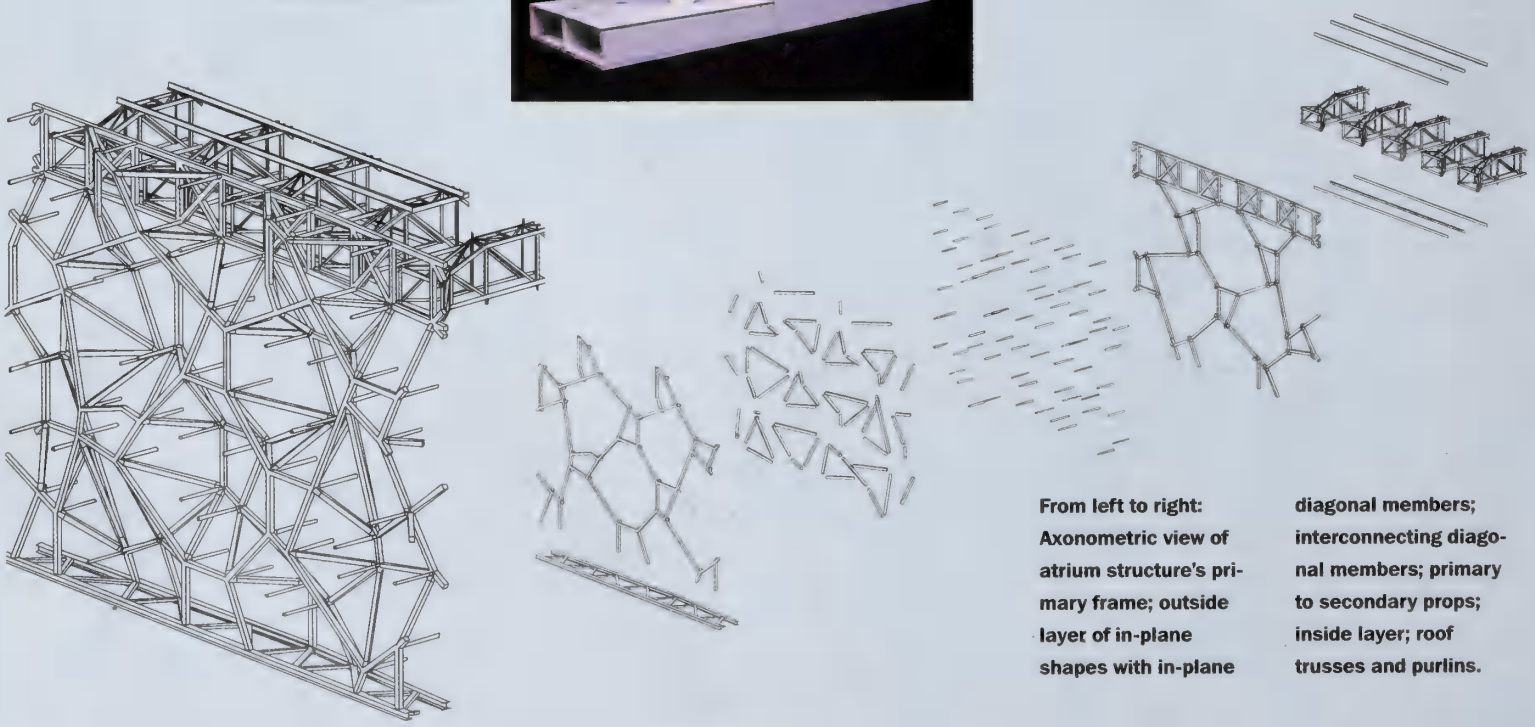
The atrium's inspired geometry

Because temperatures in Melbourne range from cool to very hot, Lab Architecture designed a covered public atrium to complement the open plaza at Federation Square. A three-dimensional interpretation of a pinwheel grid, the fractal framework of the space forms the basis of an intricate, variegated structure from a limited kit of parts. The primary structure is formed from square hollow sections. According to Tim Hill, project architect at Lab Architecture, "Elements of the pinwheel grid are separated into outer and inner structural planes to form two surfaces, known as primary shapes. These surfaces are then linked together with a series of diagonal interconnecting members to form a homogeneous open network of structure."

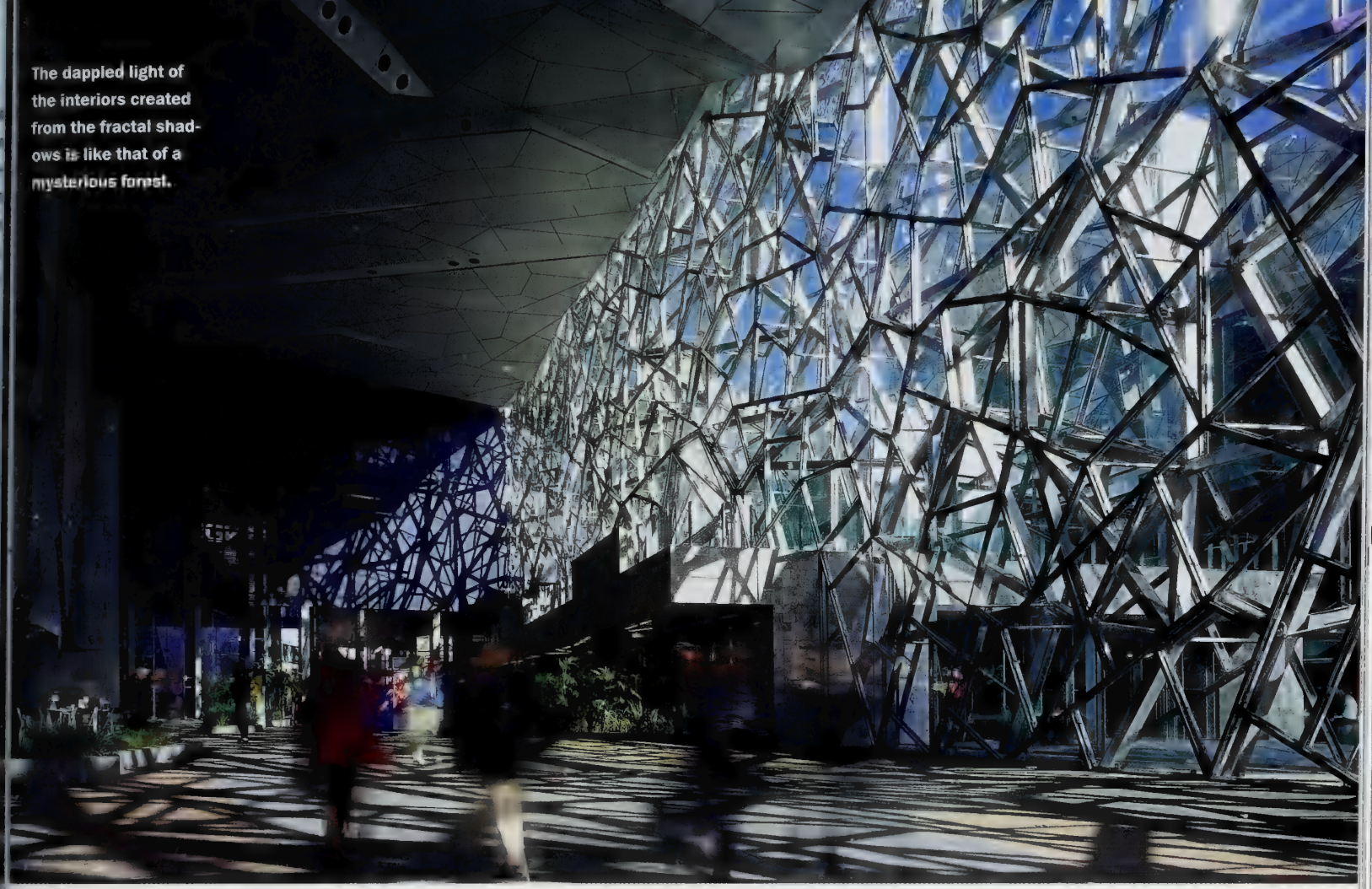
The secondary structure is a light lacework of elements formed from a finer interpretation of the pinwheel geometry. It creates zones of visual and structural coherence with the primary structure. Divided into north and south atria, the quality of the inner and outer skin transforms to support particular areas of the program. The north atrium opens to the city on the north and forms an indoor street, where cafés and shops operate within a tempered environment. "In this zone, the glass surfaces are laid directly over the secondary structures, the outer skin forming a rain screen and brise-soleil, while the inner, double-glazed surface provides the weather seal. The space between the two skins is a solar chimney, effectively insulating the atrium," notes Tim Hill.

Sheltered by buildings on three sides, the south atrium supports a flexible performance space. Its outer skin is formed from sealed, double-glazed units, while the inner skin is folded to follow the geometry of the primary framework, creating deeply bent ribbons of faceted glass.

With its dimensions of 59 feet high and wide, and 425 feet long, the atrium's expansive volume is conditioned by a passive cooling system known as the Labyrinth, that uses low-level air displacement to keep the temperature up to 50 degrees cooler than the temperature outside. *J.F.K.*



From left to right: Axonometric view of atrium structure's primary frame; outside layer of in-plane shapes with in-plane diagonal members; interconnecting diagonal members; primary to secondary props; inside layer; roof trusses and purlins.



The dappled light of the interiors created from the fractal shadows is like that of a mysterious forest.

tury technology, with a railroad station to one side (and underneath its new plaza). On the other side flows the River Yarra, near a picturesque English-landscape park. This key, contradictory position becomes one pretext to turn culture's repetitive grids into nature's varying fractals, a transformation communicated very strongly as one walks through the covered atrium from the main city thoroughfare to the tree-lined river. The overlapping polygonal mullions and their fractured shadows are the architectural equivalents of branches, twigs, and leaves—the dappled light produced is that of a forest. How extraordinary a public room; It is rather like crossing a nature temple with an upmarket car salesroom—and BMW appears to have branded the space.

Another rationale for the plural expression is the diversity of use: a new Museum of Australian Art, part of the National Gallery of Victoria, bars, digital cinemas, tourist offices, book and music stores, a large civic plaza, and the huge covered atrium that runs across the site (it might double as a wintergarden and perhaps hold parts of a rainforest!). A cynic might call the whole thing a shopping mall tarted up by an arts center; but, with a sympathetic reading, it's the new heart and public realm of a city that has never had a central piazza or place for the citizens to congregate.

Mall or agora, the scheme hovers nicely between these banal and illustrious precedents. Its glass, steel, and zinc surfaces reflect the color and texture of the prosaic office buildings that make up downtown, while its beige sandstone picks up the polychromatic masonry of William Butterfield's Gothic Revival St. Paul's Cathedral, on the street corner opposite. This type of material contextualism, however, improves on its neighbors in so far as its fractal grammar shows greater scaling. From afar, the gently faceted masses appear like bulky geological strata or urban landforms, an infrastructural model that FOA has used recently at the Yokohama ship terminal in Japan, and Peter Eisenman has adopted at the cultural center now under construction in Santiago de Compostela, Spain. When commissions grow to a certain size larger than the type of a building, it makes sense to treat them as city fabric, one reason the urban landform has become so prevalent today.

Closer in, this fractured earth-grammar breaks up into irregular polyhedra of grays, silvers, and beige, figures that are larger than a person but smaller than the modules of the adjacent office blocks. Finally, the third and fourth level of scaling brings one up next to the lively surfaces—the triangular panels, about half the size of the human body, that pinwheel eight times about a center point—and the small

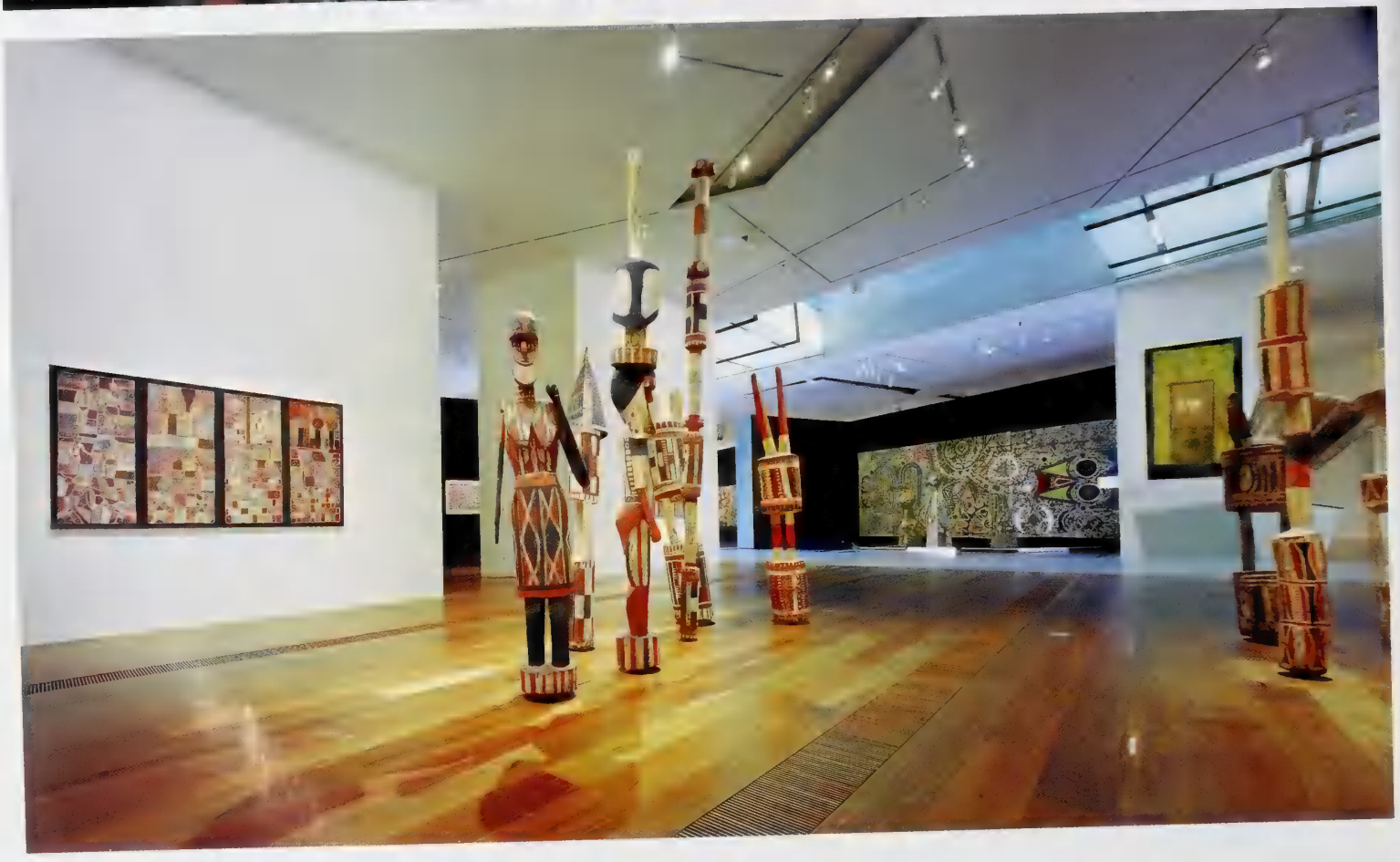
AHEAD OF THE GAME AS A LANDFORM—HOW COULD THESE YOUNG ARCHITECTS, ON THEIR FIRST COMMISSION, PULL IT OFF?

construction details. This scaling effectively breaks down the oversize grammar of the central city and blurs it together into smaller and "coherent" (if vibrating) polyhedra.

As the site plan reveals, the basic city geometry of the grid is also broken down and blurred together. What the architects call "shards" (after Daniel Libeskind's concept) define the sensitive edges of the site near the cathedral and rail station. Together with larger broken volumes, they enclose tight alleyway spaces and the L-shaped civic plaza. Again, like Eisenman's work at Santiago, it is a neomedieval urbanism married to a geological metaphor.







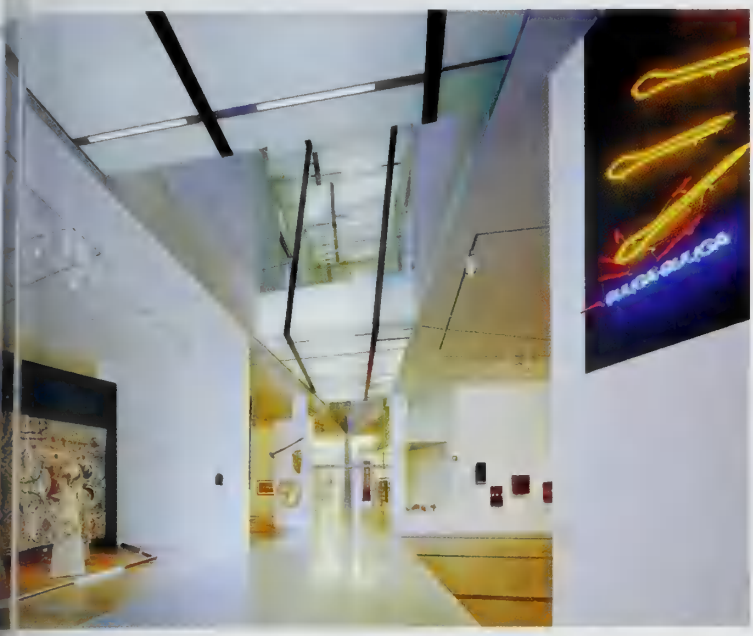


The exterior provides few clues to the drama within. Organized in chronological sequence, the National Gallery of Victoria's collection of Australian art presents a historical narrative that traces the story of Australia's settlement. As visitors move through the gallery, vertical expanses and interesting geometries become part of the building's internal surprises.



The crossbar shape of the National Gallery building provides an internal dynamic for the exhibition of the art. Displayed in a shifting matrix of long views and transverse connections, the objects facilitate straightforward wayfinding through the galleries, while lateral glimpses of the space hint at new perspectives into and across the building. The Australian Centre for the Moving Image (opposite, bottom and middle) preserves film, television, and video of cultural and historic significance and presents programs related to its collections.

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As a popular meeting place at the crossroads of Melbourne's main streets, one can see Federation Square as a contemporary version of the Piazza San Marco in Venice—roughly the same proportion, also L-shaped, and similarly the culmiNation of main routes. It also includes shopping, gallerygoing, open-air cafés, continuous music, people watching, and the *passeggiatta*. Yet, in Venice there is no giant LED screen where 30,000 can relish England being beaten at football; nor is it likely that 150,000 Venetians might congregate in the piazza, as they did here in Melbourne, to demonstrate against the war in Iraq. Federation Square, as its name implies, is presently more of a true public realm than the glorious outdoor room of La Serenissima.

More relevant than Piazza San Marco, more successfully scaled than the Miesian skyscraper, ahead of the game as a landform—how could these young architects, on their first commission, pull it off? There must be something wrong. Well, it is true, some of the fabric is overwrought and other bits are downright maladroit. The brilliant conceptual idea of leaving a few window views as voids in the fabric simply makes some of the surfaces look unfinished and messy. The fractal atrium, with its beautiful dappled light, is surrounded on the outside by a clunky rectilinear frame that annihilates the internal geometry. One could go on finding minor lapses, but to what purpose?

The importance of this project is its place in unfolding, contemporary history. Picking up the ideas of what I have called the new paradigm in architecture, getting them straight from Eisenman, Libeskind, ARM, FOA, and a host of Dutch architects working on urban landforms, it sets a new standard for city fabric engaged with the issue of global pluralism. It adapts a fractal geometry and attendant scaling in its surfaces and internal spaces. I have not even mentioned the interesting spatial ideas that are developed between the gallery and museum, and around its foyer: Boxes of space snake

A FRACTAL ARCHITECTURE OF SUPPLE VARIATION CAN BE MORE SUBTLY UNIFIED THAN AN AMALGAM OF DISPARATE PARTS.

around each other and cross over, sometimes leaving "intrafilament space" crossed by bridges, an idea taken from Libeskind's Jewish Museum in Berlin and given an extra twist. In fact, Libeskind, one of the judges who picked the scheme in the competition of 1997, has obviously been an influence for the zinc shards and the crystalline grammar of the foyer (Donald Bates worked on the Jewish Museum and Peter Davidson taught at the AA in London, where these ideas are current). But, again, developing part of a new tradition is a virtue, and it is possible that Libeskind's work at Bern and at New York's Ground Zero will have, in turn, to take cognizance of moves made here. Placed in a larger perspective, we can see this city fabric as a step in a sequence, in the development of an urban order that is neither Classical nor Modern but, like the geometry of nature, based on ever-changing and slightly varying fractal patterns, an order much more amusing and interesting than those overly repetitive ones of the past. ■

Sources

Facades: *Permasteel*
Glazing: *DMS*
Atrium structure: *Riband*
Zinc walling and roofs: *HM Metalcraft; Hueston*
Plaza and stone flooring: *Meteor Stone*
Structural steel: *Alfasi; Chapel Brothers; GFC Industries*
Structural concrete: *Deco; Fitzgerald Industries*
Timber flooring: *Australian Recycled Timber*

For more information about this project, go to Projects at **www.architecturalrecord.com.**



The ministerial suite (pictured here from the courtyard) is a curving building that houses the foreign minister's office. In front of the suite, facing National Boulevard (opposite), is a ceremonial automobile court and the main entrance. Stone walls and integrated landscaping help create a highly secure environment.

Diamond and Schmitt integrate a sublime onyx jewel box into the highly secure ISRAELI FOREIGN MINISTRY





By Michael Levin with John E. Czarnecki, Assoc. AIA

We take it for granted that architects create beauty in the built environment. Their task is far more difficult, though, when they are asked to design a building that will be known as a potential target in a politically volatile part of the world. That was the task for the Toronto firm Diamond and Schmitt Architects, which designed the Israeli Foreign Ministry, a building that needed to appear inviting and open as well as protected and enclosed. Completed in November 2002, the Israeli Foreign Ministry, now considered the safest and most secure building in Israel, helps define Jerusalem's National Precinct.

Located on the ceremonial National Boulevard, the ministry is one of a number of important buildings of state that enclose Jerusalem's National Precinct, with the Supreme Court immediately to the south, and the parliament buildings (Knesset), The Israel Museum, and the Bank of Israel nearby.

The 419,000-square-foot project is a much-needed infrastructure improvement for the Israeli government. The offices of the foreign minister and staff had been in what is best described as single-story huts, like a military camp, since the foundation of the Israeli State in 1948. Half a century later, it was difficult for the foreign ministry staff to continue functioning in a rudimentary way, like pioneers, and with the maturity and institutionalization of the state, it was a necessity to construct a permanent home.

Diamond and Schmitt, with Jerusalem firm Kolker, Kolker Epstein as associate architects, was selected in a 1996 competition for the Israeli Foreign Ministry out of a field of 10 firms. Of the three finalists, the other two firms were Israeli—Goldenberg, Buchman Architects and Kenan Inbinder Architects. The international jury included U.S. architects Richard Meier, FAIA, James Ingo Freed, FAIA, and Romaldo Giurgola, FAIA. This was the second project for the Diamond and Schmitt and Kolker, Kolker Epstein team—they worked together on Diamond and Schmitt's first project in Israel, the Jerusalem City Hall, completed in 1993.

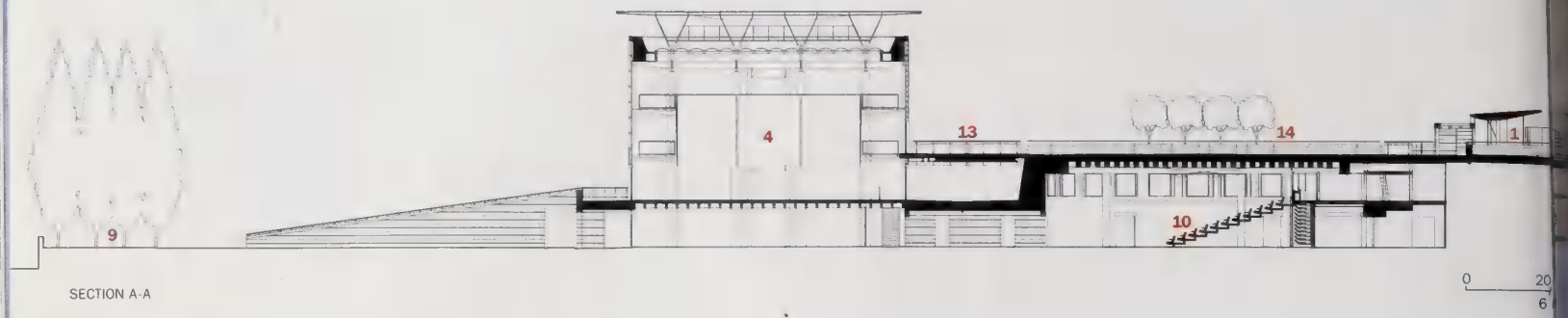
The author of Santiago Calatrava—Art Works: Laboratory of Ideas, Forms and Structures, *published in 2003, Michael Levin teaches the history of modern architecture and art at Shenkar College of Engineering and Design, Ramat Gan, Israel.*

One in a continuing wall of government buildings

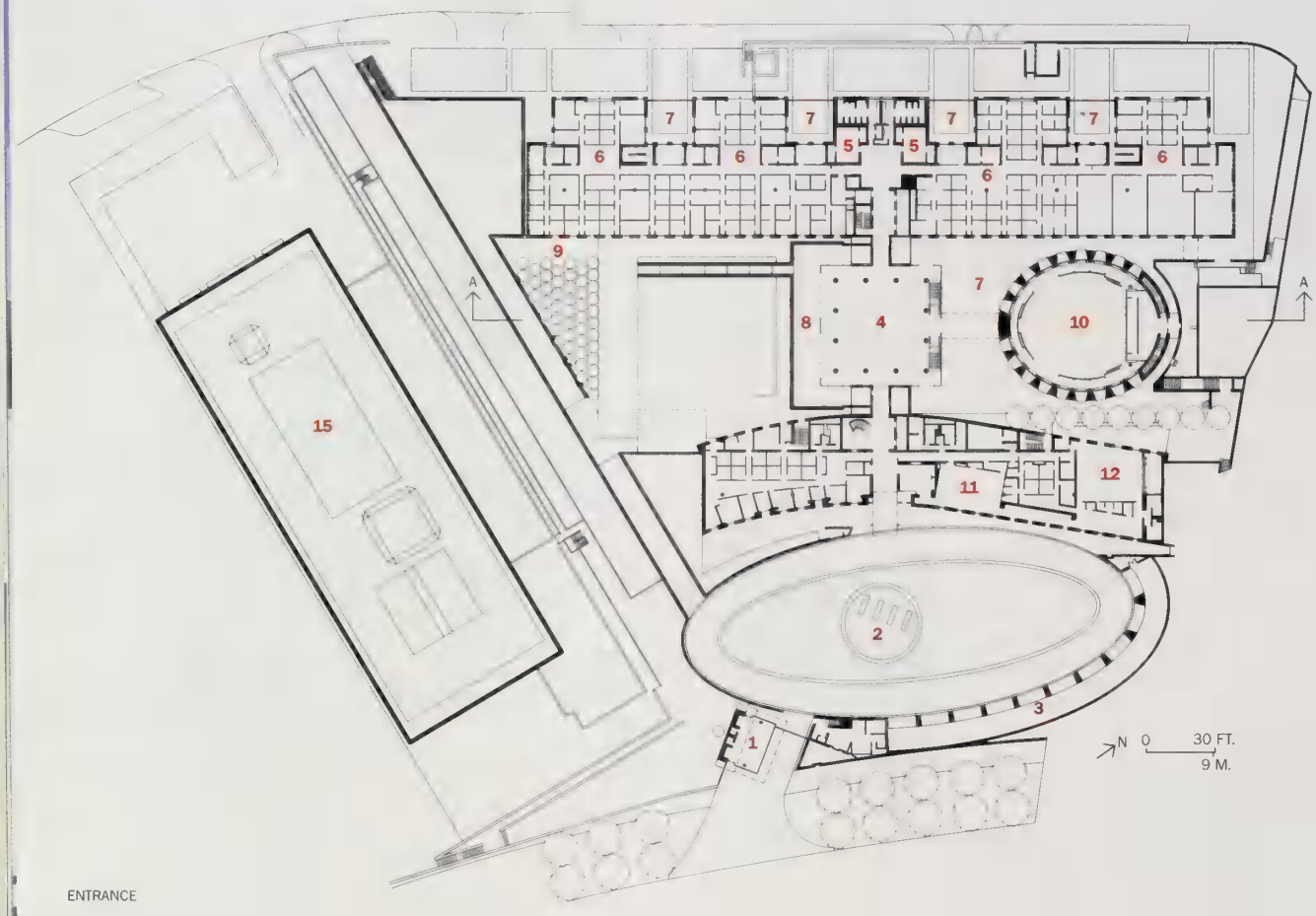
The architects had a heady charge with the Israeli Foreign Ministry project. The building had to form part of a continuous wall of government buildings along the National Boulevard, and yet it had to have an importance of its own—a ceremonial and stately appearance—because it is the first port of call for visiting diplomats.

Although highly secure, the site of the new ministry does not have any fences. Instead, the design for perimeter security is integrated into plantings and walls surrounding an oval arrival court. A guard station stands before the main gate, which is through an aperture in the arrival court wall. The glass guard-station pavilion—a transparent cube of thick glass with a metal and glass roof—imparts a sense of welcome and lightness for the entrance. Protection devices embedded in the gate prevent the possibility of

Project: *Israeli Foreign Ministry, Jerusalem, Israel*
Owner: *State of Israel*
Architects: *Diamond and Schmitt Architects—A.J. Diamond, Hon. FAIA, partner in charge; Jon Soules, Birgit Siber, Michael Szabo, George Przybylski, Anna Kogan, Suzanne Graham, Sandor Rott, team; Kolker, Kolker Epstein Architects—Randy Epstein, Amir Kolker, Opher Kolker, Herschel Broncher, Tami Antebbi, team*
Engineers: *Yaron-Shimoni-Shacham (structural)*

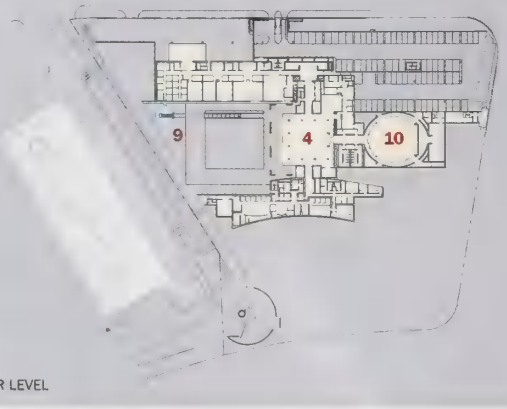


SECTION A-A

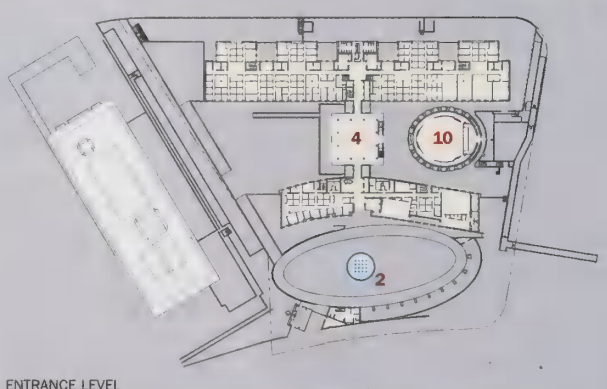


ENTRANCE

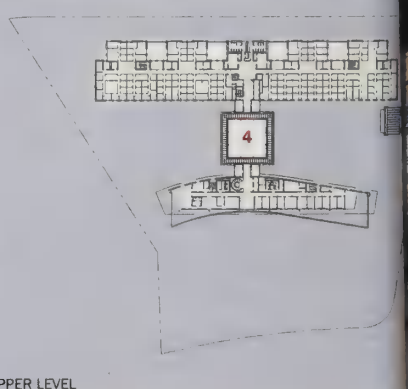
1. *Guard station*
2. *Arrival court*
3. *Parking*
4. *Ceremonial reception*
5. *Meeting rooms*
6. *Offices*
7. *Courtyard*
8. *Terrace*
9. *Cypress grove*
10. *Ballroom*
11. *Conference room*
12. *Press gallery*
13. *Bridge*
14. *Roof terrace*
15. *Supreme Court*



LOWER LEVEL



ENTRANCE LEVEL



UPPER LEVEL

A long building that is primarily staff offices (pictured right and in foreground of model, below) has rooftop terraces and defines the western edge of the complex.





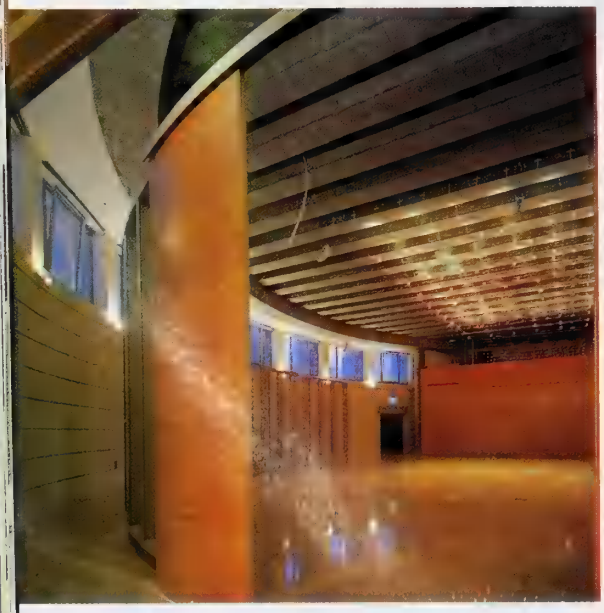


The ceremonial reception hall with onyx facade (opposite) leads to a courtyard to the southwest and is connected by a bridge (below) to the ballroom—an oval structure with stone walls—to the northeast.











The interior of the ceremonial reception hall (this page above, and opposite) features walls of onyx stone that is thin enough to allow light into the space. Two levels of walkways with glass floors surround the hall. The oval ballroom (far left) is half sunken into the ground. Throughout the complex, the architects contrasted rectilinear geometries with light, curving forms, such as the stair shown here (left).



a vehicle crashing through into the court. With a reflecting pool in the middle signifying delicacy, the oval ceremonial arrival court lies buried within the landscape that slopes down from north to south. Thus, the curved wall surrounding the court appears to emerge from the landscape. At 265 feet long and 108 feet wide, the court was developed as a dignified, secure place for the arrival of up to 25 cars at one time; ceremonies welcoming diplomats occur in the court at the building's entrance.

In the "hyper-Democratic" Israeli society, as project partner in charge A.J. "Jack" Diamond, Hon. FAIA, described it, the government had initially wanted one entrance where all people, foreign dignitaries or ministry office staff, would enter. Although this was not feasible in the literal sense, Diamond did use the sloped landscape to create two means to enter the complex at the same location. Dignitaries enter from the oval court off of the National Boulevard, and employees enter one level higher, from Yitzhak Rabin Boulevard to the north. This way, the diplomatic corps can go into the complex without interrupting formal receptions being held on the lower floor.

Upon entry from the oval court, diplomats arrive in the ministerial suite, which is one of four distinct components of the ministry complex, including a ceremonial reception hall, a ballroom, and the staff office building. The ministerial suite, a curving building (pictured on pages 120 and 121) clad in Mitzbah Ramon limestone with a zinc roof, includes the offices of the Minister, the Deputy Minister, the office of protocol, conference rooms, and the press room. (For security reasons, details about sensitive interior spaces cannot be described).

Through the ministerial suite, visitors proceed to the ceremonial reception hall, the centerpiece of the complex. The hall, 75 by 75 feet

DURING DAYLIGHT HOURS, THE ONYX APPEARS WHITE ON THE EXTERIOR, LIKE THE MITZBAH RAMON LIMESTONE.

square and 40 feet tall, is supported by 12 tapered, cast-in-place-concrete columns that give a sense of elegance and height—an impression of nobility and sophistication, as Diamond intended. A perforated metal parasol shades the glass roof above the reception hall, and the hall is surrounded by glass on its ground floor and onyx panels above (see description of wall detail, page 128). The onyx changes with the hour.

Onyx wall assembly tested for blast

Intended as a prototype of secure office design in the Middle East, the Israeli Foreign Ministry complex has an innovative wall assembly that incorporates light materials in a design intended to protect people inside from a potential blast.

The onyx walls of the ceremonial reception hall (section, right, and pictured on pages 124–29) give the cubic room a warm backdrop for diplomatic receptions. "You want the state to look its best," says A.J. "Jack" Diamond, Hon. FAIA, the partner in charge. The unique detail of the wall assembly in the ministry's reception hall earned Diamond and Schmitt Architects a 2001 Royal Architectural Institute of Canada (RAIC) Excellence in Innovation in Architecture Award for building envelope innovation. The firm was also named last month as the first recipient of the RAIC's Architectural Firm Award.

The architects designed the reception-hall exterior materials to collapse and fly outward in the event of an explosion rather than absorb the impact and have a potential domino effect of collapse onto surrounding buildings. For this reason, the exterior of the 75-by-75-foot hall is built almost entirely with light materials, including mostly glass on the ground floor, onyx panels on the upper floors, and a glass ceiling.

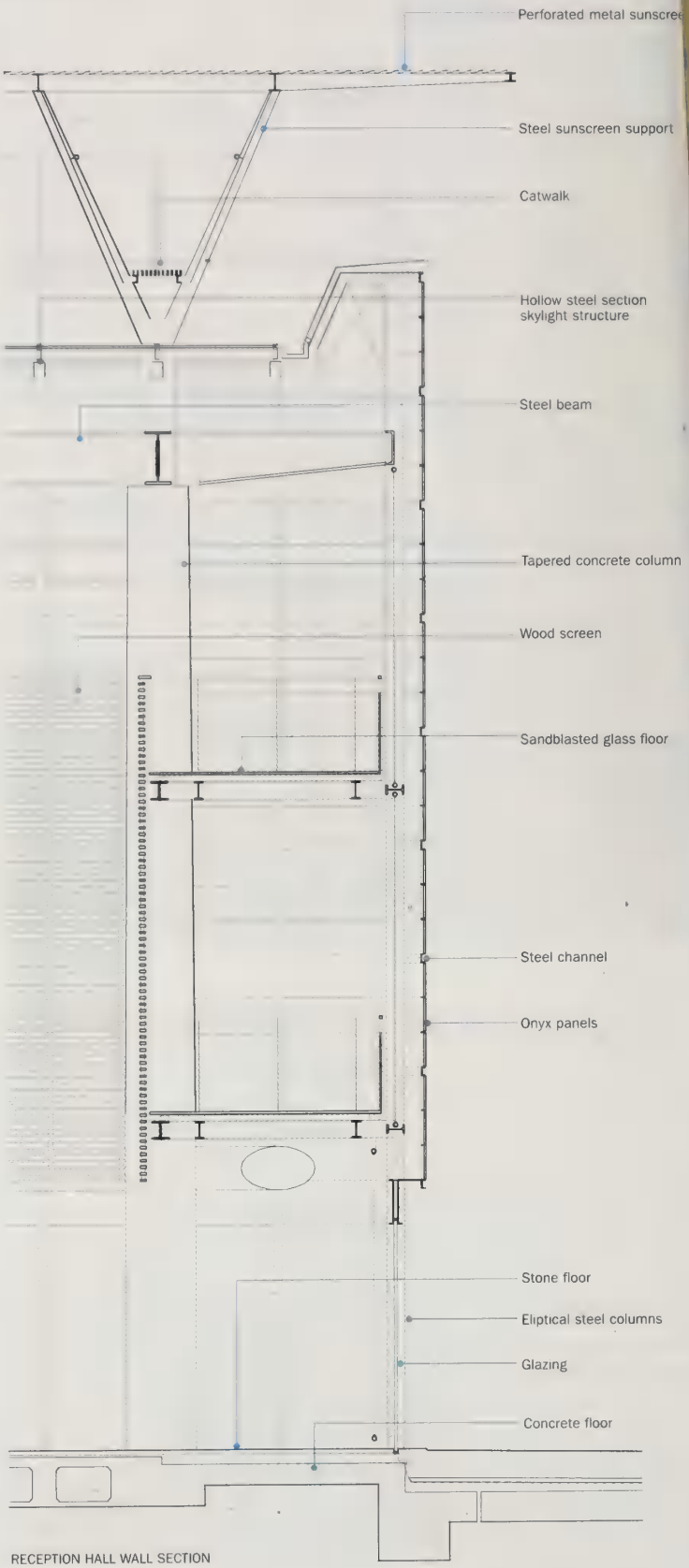
The onyx panels, 1⅛ inches thick by 1 foot 3⅛ inches high by 2 feet ⅛ inch wide, are installed on aluminum metal spring clips. In the event of an explosion outside, the onyx would recede inward a bit on the spring clips and then recoil outward. This reaction would be similar to the recoil on a gun as it is shot.

A walkway with a sandblasted glass floor surrounds the perimeter of the reception hall on two levels, including the employee entrance level. Employees can walk around the perimeter of the hall to get to the office building while a reception is occurring on the ground floor of the hall. The teak wood screen along the walkway provides a layer of rhythmic beauty, allowing light to penetrate while further defining the space, and it has a safety function—should any of the onyx blast inward, the teak would act as a shield for the main interior hall. Also, thin aeronautical cables connected to pipe rails on the ground floor serve as an additional means to block glass and onyx from flying inward in a blast. A perforated aluminum screen on steel supports shades the glass roof from glare and protects it from flying debris that could damage it.

Given security concerns, Israeli government authorities had to be convinced that the use of the light and transparent onyx and glass materials was appropriate for the hall. The design was approved only after a full-scale explosion experiment was held in a desert site. An initial mock-up blast "failed miserably," Diamond says; but a second blast test passed.

Michael Levin and John E. Czarnecki, Assoc. AIA

The onyx panels on the exterior wall of the reception hall are held in place with spring clips that, in case of an explosion, would allow the onyx to recede inward a bit before recoiling outward. The wood screen would also block onyx fragments from the interior.



RECEPTION HALL WALL SECTION



During daylight hours, it appears white on the exterior, like the Mitzbah Ramon limestone. On the interior, though, sunlight floods the hall with a soft, yellow light filtered through the onyx, and the veins within the stone show in random patterns. At night, the exterior cube glows through the onyx from the interior light.

In contrast to the transparent, thin onyx walls of the reception hall, the oval ballroom sits half-sunk into the ground with thick stone-clad walls. Inside, the ballroom has retractable seating, allowing flexibility for both performances and receptions. The sloping walls, with their small apertures and stone frames, accentuate the heaviness of the half-sunk structure, which serves as a platform for the employee entrance on its roof. Employees walk over a bridge leading to a stone-paved passage. A grove of orange trees in 7-foot containers shades the ballroom roof.

The western edge of the site is dominated by a long building that contains primarily offices for the ministerial staff, with a library, school for diplomats, and a consular department. Although long, the structure appears as a series of five-story pavilions with gardens in between to break down the scale. Thin teak wood, similar to that used in the ceremonial reception hall (pictured on this page), screens the gardens from the western sun and adds warmth and texture to the otherwise expansive limestone facade. Pergolas covering the rooftop terraces on the top floor of each pavilion also soften the severity of the elevation.

Inside the office building, Diamond designed modules, approximately 10 per floor, with workstations that vary from fairly open to semienclosed spaces. The introduction of open work space in Israel is significant, Diamond points out, because few Israeli offices have an open plan and the foreign ministry employees specifically had grown accustomed to their own offices in the rudimentary small buildings that had been the foreign ministry home.

The integration of landscape with the heavy stone structures, and the thoughtful placement of warm-toned, thin teak wood gives the Israeli Foreign Ministry complex a sense of permanence, as Diamond had wanted—allowing the buildings to appear like ruins in the landscape. Although modern and secure, the complex is, above all, humane. ■

Sources

Aluminum: *Alomayer*

Carpet: *Beaulieu Commercial*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

Herzog & de Meuron's LABAN CENTRE FOR MOVEMENT AND DANCE casts an ethereal glow in lime, turquoise, and magenta

By Raymund Ryan

A tendency toward good taste and blandness," observes artist Michael Craig-Martin, marks many an artist/architect collaboration. Taste aside, few could accuse this Londoner of blandness in his recent work with Swiss architect Herzog & de Meuron on the Laban Centre for Movement and Dance in Deptford, a postindustrial suburb of the British capital. "Herzog & de Meuron had the idea of using polycarbonate and color," recalls Craig-Martin, referring to the facility's characteristic translucent skin. His own contribution, he says, focused on the questions: "How can color work? How can it make you do something?"

Multicolored polycarbonate sheathing gives the newly completed Laban Centre a sense of dynamism and enigma even in its dull, low-income neighborhood. The 88,300-square-foot building's four translucent flanks—two curved, two straight—are studded or inlaid with occasional planes of flush, mullionless glass that reveal luminous interiors by night and unexpected reflections of the surroundings by day. Sited above a soft curve of Deptford Creek—a tidal tributary of the Thames separating Deptford from Greenwich, with its great axial observatory and Royal Naval College—the center has glazing reflecting a contemporary hodgepodge of offices, retail outlets, and housing developments, as well as the rather romantic sight of barges or tugboats stranded at low tide.

Previously, Jacques Herzog and Pierre de Meuron had tapped inherent potential in similar areas around Basel, their base in Switzerland. Their siting of boxlike structures, such as the Ricola storage building in Laufen, and fabrication of each project's envelope were influenced by contemporary art. In the Ricola packing facility near Mulhouse, for example, or the Roche-Pharma Research Building in Basel, they worked with artists Thomas Ruff and Rémy Zaugg, respectively, throughout the design process. Craig-Martin—well known in Britain for vivid murals exploring aspects of Pop, perception, and geometry—saw the Laban collaboration as

Raymund Ryan is Curator of the Heinz Architectural Center, in Pittsburgh, and coauthor of Building Tate Modern *(Tate Publishing, London, 2000).*

Project: *Laban Centre for Movement and Dance, Deptford, London*
Architect: *Herzog & de Meuron—Jacques Herzog, Pierre de Meuron, Harry Gugger, Christine Binswanger, principals; Jayne Barlow, Konstanze Beelitz, Nandita Boger, Fun Budimann, Michael Casey, Peter Cookson, Irina Davidovici, Rita Maria Diniz, Hernan Fierro-Castro, Alice Foxley, Detlef Horisberger, Jean-Paul Jaccaud, Nick Lyons, Stefan Marbach, Christoph Mauz, Christopher Pannett, Kristen White, project team*



An animated and inflected box, the structure has a concave west face. Like a lantern by night, the building dematerializes visually, glowing through a skin of translucent polycarbonate with occasional glass panels. Views into its clear southwest corner are kaleidoscopic.





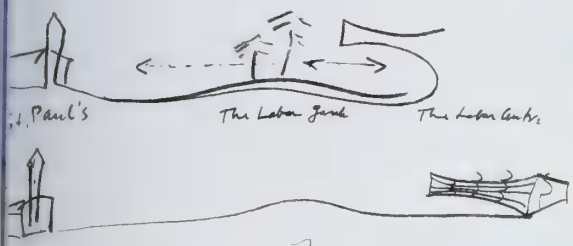
his first opportunity to tackle or "talk about a building before it existed."

The structure, as built, is an inflected box with a curved face masking the principal entry hall, or animated slot. In its departure from pure geometry, the form is akin to Herzog & de Meuron's plywood cabin at Bottmingen (gently canted about a preexisting tree) and its mixed-use Dornacherplatz building at Solothurn (bowed before a raised railroad). The dance center's west elevation arcs in response to views of the steeple and cylindrical front of St. Paul's Church (1712–30), a rare, monumental element in the low-lying neighborhood. The Laban's curve also embraces a zigzag pathway and mounds of recycled earth, designed in collaboration with Zurich's distinguished landscape practice, Vogt Landschaftarchitekten.

Kaleidoscopic reflections of the immediate context register on the concave elevation's sweep of glass panels, as in a hall of mirrors, while sliding glass doors in the southwest corner provide an entry. The exterior skin hovers just above the ground plane, accentuating the form's visual lightness and separating sheath from structure. The building thus appears to float. Air can circulate within a gap between the Laban's outer polycarbonate skin and its taut inner membrane of milky glass, creating an environmental buffer. Large, apparently blurry swatches of color—lime, turquoise, and magenta—consist of paint applied to the polycarbonate's inner surface.

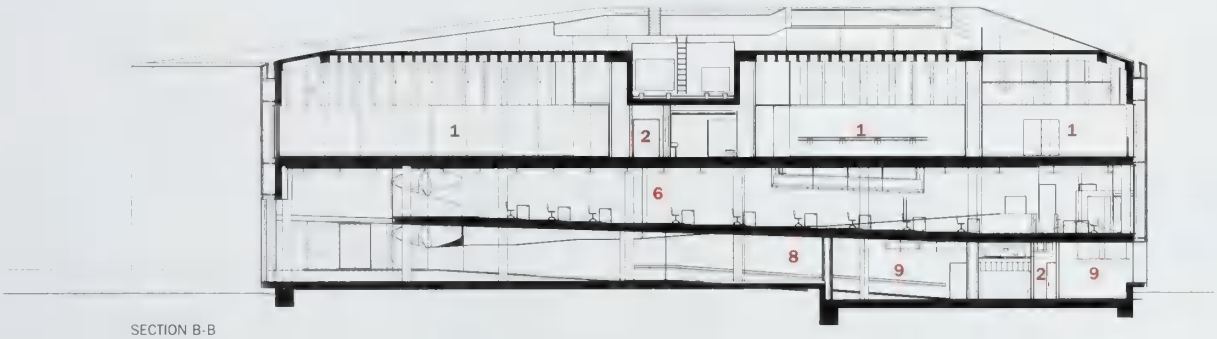
The building's interior is a network of "streets," or corridors, and chambers on two full stories with an interstitial mezzanine. The entry hall floor splits around a dramatic spiral stair of black-lacquered concrete: On one side, the black resin ground plane descends to a public café, overlooking the creek; while on the other, it ramps up, edged by a wavy birch handrail that plays on the rigidity of a classical dancers' training barre. The ramp passes through a long, high hallway, turns at mezzanine level through doors in a glass screen, then steps up into a gently tiered library, and eventually halts in dramatic finale above the café. As in Rem Koolhaas's Rotterdam Kunsthal, folded floors and transverse views instigate an internal dynamic.

Laban's programmatic heart, and the generator of Craig-Martin's contribution, is an enclosed 300-seat performance space that rises through the center of the building to the apex of its barely visible pitched roof. Subtly splayed corridors, leading to a second corkscrew stair to the north, separate this theater from smaller-scale rooms. Whereas the entry and mezzanine levels accommodate hybrid functions and casual gatherings, the less public second floor is dedicated to dance studios. A narrow patio with a shallow pool slices through the building, illuminating the most internalized corridor. A second patio, at the upper level, folds downward, forming a crystalline skylight suspended over the linear entryway.





1. *Dance studio*
2. *Circulation*
3. *Stage*
4. *Auditorium*
5. *Court*
6. *Library*
7. *Cafeteria*
8. *Meeting*
9. *Therapy*



SECTION B-B



SECTION A-A

0 10 FT.
3 M.

With back-painted areas of vivid color, the polycarbonate sheath changes appearance with varying light (opposite and this page, top and right). Following the architect's concept sketch (top left), the building arcs in response to a nearby church.





All studios (below) have at least one long, color-blushed, translucent wall with a clear glass panel, permitting dancers to orient themselves to weather and other aspects of external reality. Expressively wavy birch rails snake through the interior (left).





Courts containing reflecting pools penetrate the building (above), modulating the boxiness of its form, while bringing light, air, and weather to its innermost reaches.

1. *Dance studio*
2. *Circulation*
3. *Stage*
4. *Auditorium*
5. *Court/reflecting pool*
6. *Library*
7. *Cafeteria*
8. *Office*
9. *Workshop*
10. *Lecture theater*
11. *Therapy*
12. *Tutor*
13. *Bar*
14. *Staff*

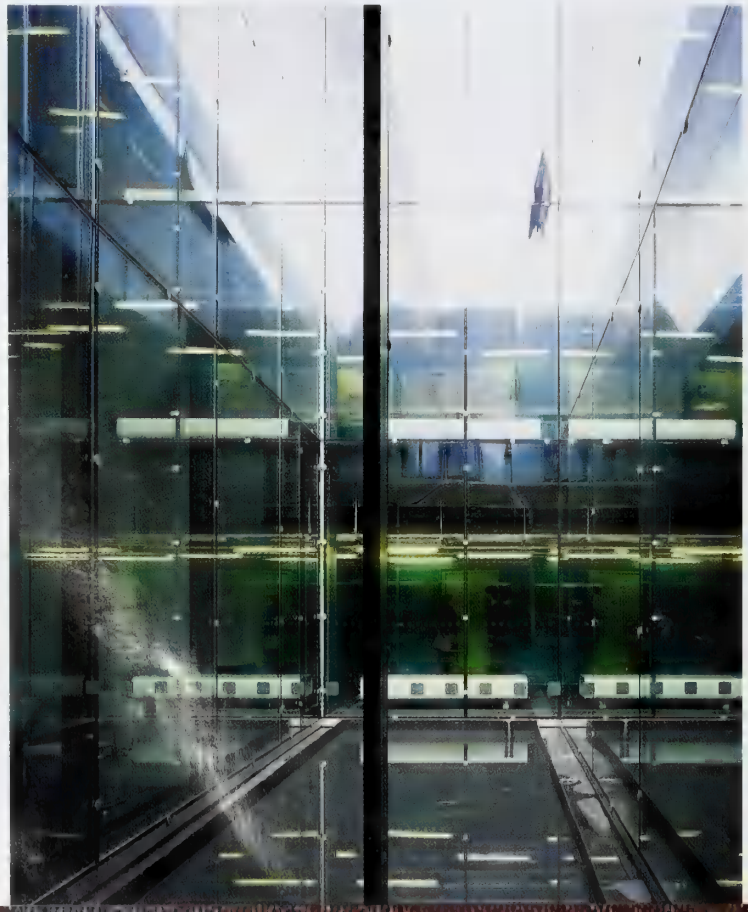


GROUND FLOOR



MEZZANINE





Like the architects' REHAB clinic in Basel, the Laban presents an agglomeration of solids and voids within a light-permeable membrane. Craig-Martin has wrapped the principal interior solid—the theater—with computer-generated line drawings of everyday objects, such as sunglasses and earphones, chosen to signify the five senses. Responding to the three wedge-shaped corridors cutting through the building, he allotted a single color—lime, turquoise, or magenta—for the walls of each passageway and then used the remaining two colors for subsidiary elements, such as fire doors and student lockers.

Herzog & de Meuron has, of course, included vivid color before, as in the Tate Modern's Chinese red lecture theater. Within Laban's tight budget (less than $23 million), intense color provides a means of heightening the interior's streetwise vitality, prompting even the sedentary to move.

The legacy of Rudolf Laban—an émigré from Nazi Germany who developed important theories of choreography and dance notation (Labanotation) and of ergonomics in the industrial workplace—is now enshrined by a luminous vessel in a gritty urban setting. To passersby in the evening, the dancers' bodies appear as participants in a contemporary shadow play. The building seems to invite motion with its ramping floors, spiraling stairs, and dynamic curves. Human movement becomes its own advertisement, as the architecture recedes into Deptford's new lime, turquoise, and magenta light. ■

For more information about this project, go to Projects at **www.architecturalrecord.com**.



Glass walls offer views from the mezzanine (this page and opposite, top) into the library and cafeteria. Glazing around the courts (opposite, bottom) contributes to the building's interior transparencies and animated reflections.



The office of the Dutch Media Authority is situated on the outside, wooded edge of Hilversum's "Media Park." The facade opposite the park has much more glass than the one along the driveway, providing workers with privacy on one side and a green view on the other.

Koen **van Velsen** gives a Dutch media policing agency the new **MEDIA AUTHORITY**, a tranquil haven in a wooded park





By Tracy Metz

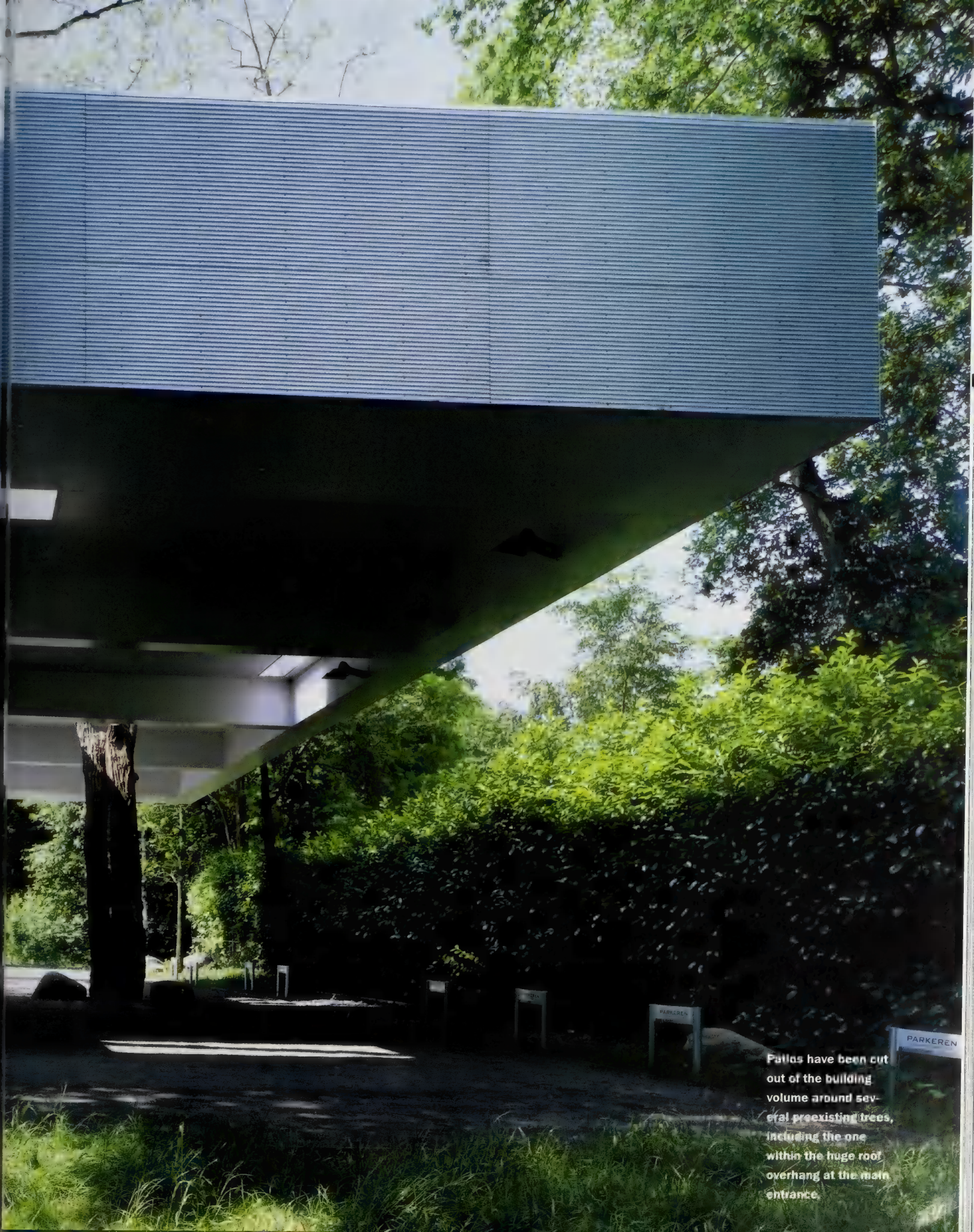
As befits a watchdog agency with the name "Commissariat for the Media," its building stands aloof, hidden from the busy road behind a former farmhouse, in a leafy area of the town of Hilversum, Holland's broadcasting capital. Architect Koen van Velsen, himself a native of Hilversum, has done a masterful job of capturing the character of both the location and the organization in a lyrical building made of glass and corrugated aluminum on the outside—decorated by the ever-changing patterns of trees' shadows—and wood, brick, and a lively color scheme on the inside.

Hilversum, traditionally known for its 19th-century grand brick villas with thatched roofs and the angular brick Modernism of its early-20th-century buildings, is expanding its architectural tradition with a new generation of striking buildings for broadcasting corporations. By far the best known are the innovative and controversial headquarters for VPRO and the Corten-steel box protruding from the ground for RVU, both by MVRDV and both just a stone's throw from the Commissariat for the Media. There is one significant difference in their locations, however: The VPRO and the RVU are inside the official "Media Park," whereas the Commissariat stands just outside, maintaining a small but symbolic distance from the bodies it is meant to police. The park's border was all but invisible until the murder of the Dutch politician Pim Fortuyn here in May 2002; now it is clearly demarcated by a high and inhospitable fence. Van Velsen feels strongly that the fence disrupts the natural setting that makes this set of buildings such an interesting ensemble in the park, but so far the authorities remain firm.

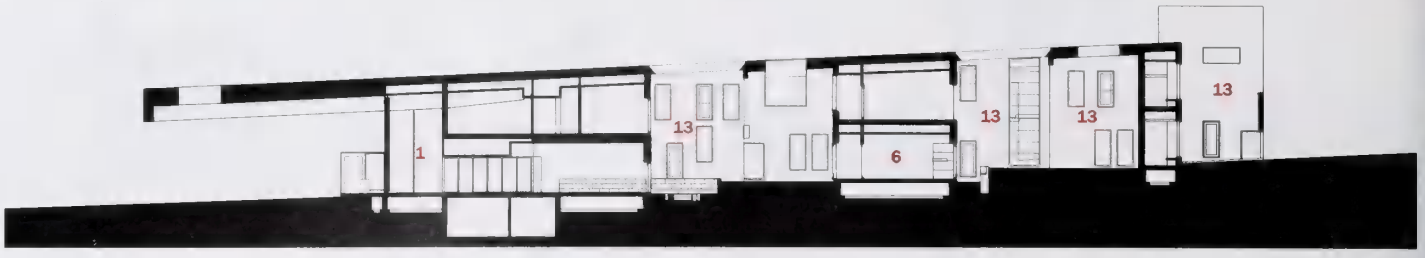
Tracy Metz is RECORD*'s Amsterdam correspondent and the author of* Fun! Leisure and Landscape, *published in September 2002 by NAi Publishers.*

Project: *Commissariat for the Media (Media Authority), Hilversum, the Netherlands*
Architect: *Koen van Velsen, principal; Gero Rutten, Marcel Steeghs, Gideon de Jong, Chris Arts, Merijn de Jong, Tom Bergevoet, project team*
Client: *Commissariaat voor de Media, Hilversum*
Contractor: *Van den Hengel*
Engineer: *D3BN (structural)*
Electricity and installations: *Huisman en van Muijen's (engineering); Lingestreek (contractor)*



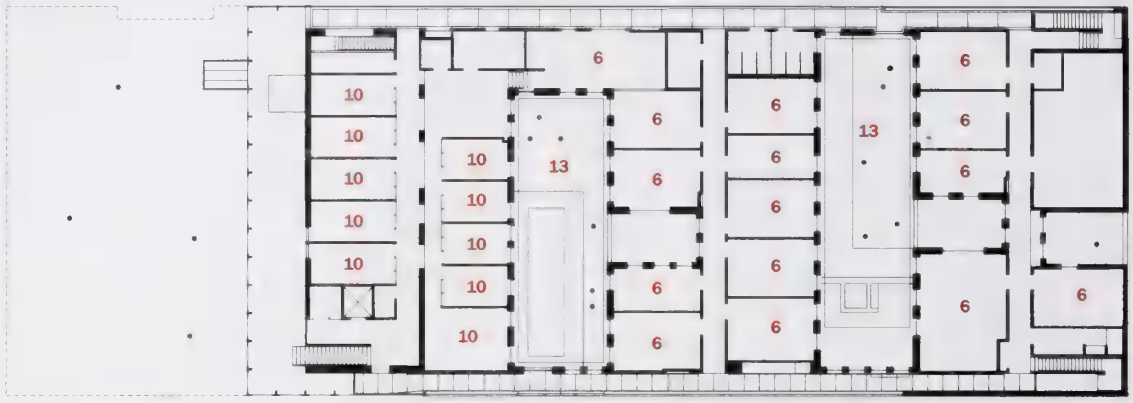


Patios have been cut out of the building volume around several preexisting trees, including the one within the huge roof overhang at the main entrance.



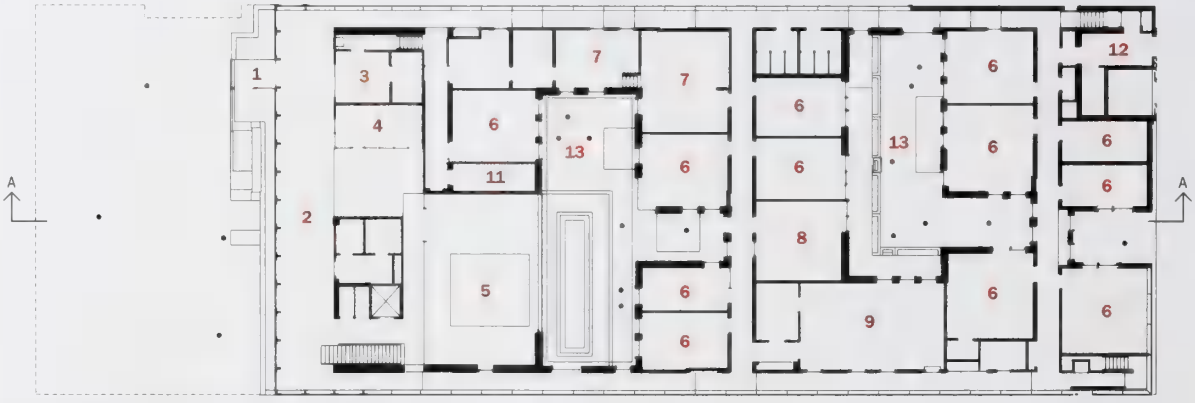
SECTION A-A

0 10 FT.
3 M.



FIRST FLOOR

1. *Entrance*
2. *Hall*
3. *Reception*
4. *Interview room*
5. *Auditorium*
6. *Office*
7. *Archives*
8. *Library*
9. *Conference room*
10. *Monitoring room*
11. *Control room*
12. *Container space*
13. *Patio*



GROUND FLOOR

N 0 10 FT.
3 M.

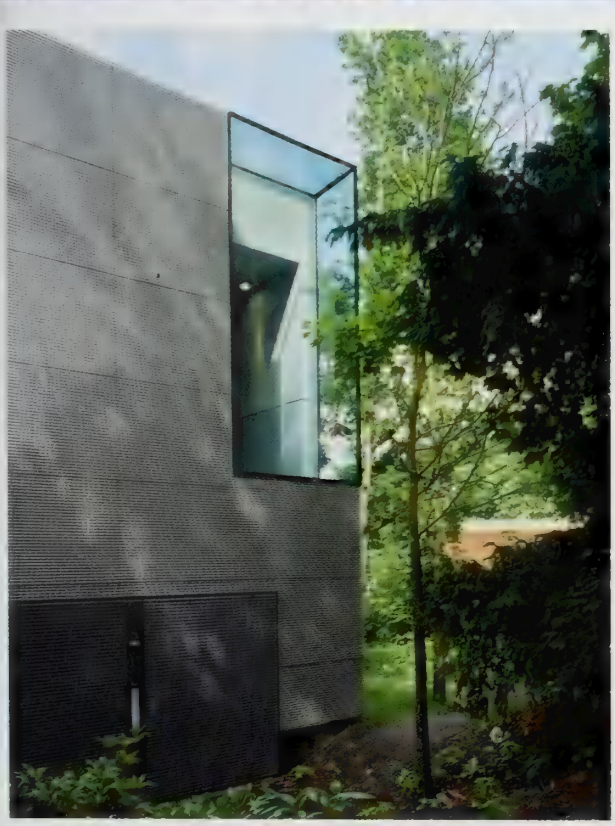
The site did present Koen van Velsen with a rare gift for an architect in Holland: a height difference between the front and the back of the site of a full 6.5 feet. In order to take better advantage of the intimacy of the location, and as a counterpoint to the upward motion of RVU's steel box, he positioned the building lengthwise along the driveway, literally with its face to the Media Park. The visitor is drawn down the incline of the driveway toward the front of the building, where the entrance is ensconced under a broad cantilevered roof with Van Velsen's signature holes in it for the trees (existing as well as newly planted ones) to grow through. The canopy provides parking space for cars and bicycles, but just as important is its function as a prelude to the open-air patios inside. At the farthest edge of the roof, a spout channels the rain like a waterfall into a basin under the surface of the parking area.

THERE ARE ALSO VIEWING ROOMS, WHERE THE "MEDIA POLICE" MONITOR RADIO AND TV PROGRAMS.

The facade facing the Media Park has much more glass than the one along the driveway, providing the 50 workers with privacy on the one side and a green view on the other. All the offices look out on greenery, be it the park outside or the patios inside, where the architect added 50 acacia's to the existing arbor.

Van Velsen emphatically prefers the word *layers* to *floors*, and once inside it becomes apparent why. The building's two layers provide 6,562 square feet (2,000 square meters) of work space, most of it offices. The walls of the two patios are sprinkled with doors—not windows, doors. All the offices have, of course, doors on the inside to enter by, but also "doors" on the outside walls by way of windows, all operable and placed at various heights in the wall, lightheartedly ignoring any sort of mundane demarcation between the first and second floor. The randomness of the pattern makes the building less a two-floor office and more a single, coher-







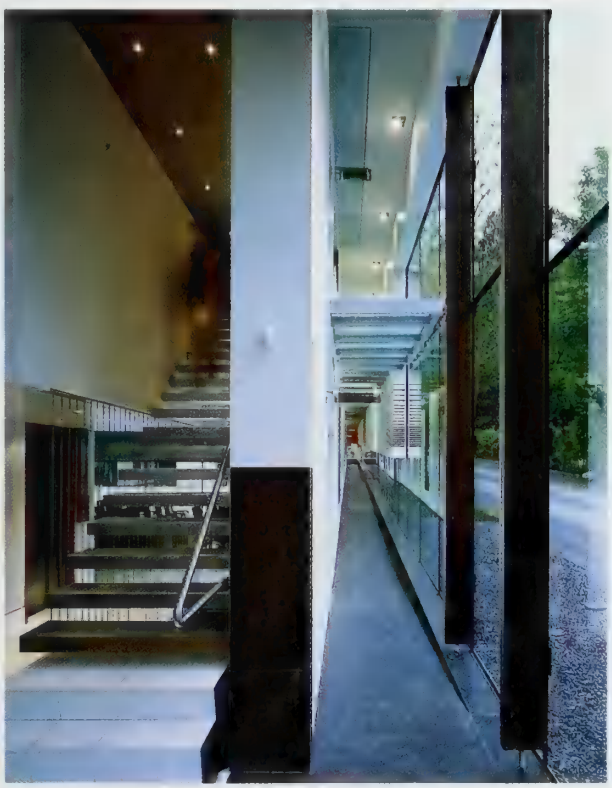
The main entrance is ensconced under a broad, cantilevered canopy (top)—a prelude to the patios within. Exterior walls of glass and corrugated aluminum (bottom left and right) contrast with the wood, brick, and lively color scheme on the inside.





Staggered patterns of doorlike windows on patio walls purposely ignore any sort of mundane demarcation between the first and second floors (opposite). Adding to the laid-back atmosphere, windows and walls in every room afford views to the green landscape (this page), while first-floor hallway floors made of greenish glass covered with matte foil seem to float free of walls (near right).







The foyer (this page) houses a functional and playful unit combining a sleek wooden bench with a built-in TV, where three boulders serve as seats. Staircases (opposite, left) and hallways (opposite, right) serve as orientation points through their varying color schemes and window patterns.





ent spatial composition. Here and there Van Velsen has even substituted the horizontal white bricks on the patio walls with vertical ones, as if to suggest that an old window had been bricked up during remodeling.

In addition to offices, there are also viewing rooms, where the "media police," as they are sometimes called, monitor radio and TV programs for transgressions of laws on, say, hidden advertising. Van Velsen designed this area to look like an attic, disguising the large steel columns

VAN VELSEN'S COMMISSARIAT IS A CONTEMPORARY *GESAMTKUNSTWERK*: HE EVEN DESIGNED THE EXIT SIGNS.

that hold up the cantilever as the slanted wooden beams of an old-fashioned roof. Another of the spaces that distinguishes the Commissariat from a run-of-the-mill office building is the courtlike chamber where hearings are held. To emphasize the character of the space, Van Velsen furnished it not only with chairs by the designer Maarten van Severen, but also with benches. Upon closer inspection, the benches are revealed to be hollow inside, and perfectly shaped to store Van Severen's chairs.

Van Velsen's Commissariat is a contemporary *gesamtkunstwerk*: he designed not only the building, but also the interior, including the furnishings, the color scheme, even the coffee nooks, the toilets, and an aesthetically pleasing variation on the usually dreary emergency exit signs. The foyer, for example, houses a functional and playful object combining a long, sleek wooden bench with a built-in TV and three adjacent boulders that serve as viewing seats: Flintstone meets Mies.

At all four corners of the building there are staircases, each different and recognizable, so that they function as orientation points. The hallways, too, are different, with varying patterns in the windows and the color scheme. The hallways along the first floor facades have floors of greenish glass covered with matte foil and seem to float free of the walls, making the building feel light on its feet. That same effect is created by small windows on the corners, keeping the box from feeling boxy, and by the colored foils on the windows, throwing patches of color on the floor as the sun moves overhead and adding brightness to the serenity of Koen van Velsen's design. ■

Sources

Metal/glass curtain wall: *Saint Gobain Veromco*
Built-up roofing: *Cazdak Cazemier*
Glass: *Saint Gobain Veromco*
Wood doors: *Van den Hengel*
Acoustical ceilings: *Rigips Benelux*
Paint: *Sigma Coatings*
Office furniture: *SV Interieurgroep*
Reception furniture: *Peter Vocking Meubelmakers*
Tables: *Peter Vocking Meubelmakers*
Downlights: *Hoffmeister*
Natural stone floor: *Carrara Natuursteen*
Signage: *DD Reklame*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

WHERE WE STAND

First Quarter 2003 Results

To Members of the AIA,

On behalf of the AIA Board of Directors, I am pleased to report that your Institute is in sound financial condition. Continuing three years of financial growth, financial performance for the first quarter of 2003 has been strong. Revenue has exceeded projections by 0.5% while expenses have been 2.5% less than budgeted, resulting in a 2.6% increase in total net income for the quarter.

This stability in financial performance allows us to focus on improving and increasing services to AIA members, the public, and the industry. Here are highlights of our recent growth in services:

- Available in late summer, re-designed AIA Contract Documents software will include Microsoft® Word and PDF file sharing.
- A new AIA printed quarterly publication for members will address theoretical and practical aspects of architecture practice. The first issue of *AIA/J – The AIA Journal of Architecture*, featuring research and design, has been mailed to all AIA members.
- With the support of AIA San Diego, the national component and its leadership, the San Diego Architectural Foundation has established a not-for-profit Academy of Neuroscience for Architecture to foster the collection and dissemination of scientific data on the human brain's function in perceiving and physiologically responding to physical environments.
- The first consumer book resulting from the partnership between The AIA and Taunton Press, *The Distinctive Home* by Jeremiah Eck, FAIA, features the work of AIA members and promotes excellence in home design to the public.
- A new AIA-Wiley publication, *Interior Graphic Standards*, has just been released.
- The new Best Practices section of aia.org is there to facilitate sharing gems of practical knowledge between you, your clients, and your peers for the benefit of all. What best practices will you share?
- The new Internship Tools page on aia.org is a clearinghouse for information for emerging professionals. This site is being used by students, interns and ARE candidates to further their development as professionals in architecture.

We are committed to maintaining the financial discipline that will enable continual improvement of services, benefits, resources, and public advocacy for all AIA members.

I welcome your comments.

Sincerely,



Norman L. Koonce, FAIA
Executive Vice President/Chief Executive Officer

AIA Financial Results March 2003 ($000's)

	YTD March Budget	YTD March Actual
Revenue	$ 21,379	$ 21,477
Operating Expense	(8,807)	(8,585)
Operating Net Income	12,572	12,892
Non-Operating Income	40	35
Unrestricted Net Income	12,612	12,927
Restricted Expense	(10)	(2)
Total Net Income	$ 12,602	$ 12,925

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Leaner and Greener

WITH INSIGHTFUL CLIENTS AND RULE-BENDING ARCHITECTS, OFFICE-BUILDING DESIGN CONTINUES TO EVOLVE, ADAPTING TO CHANGING WORKPLACE TRENDS AND EMERGING TECHNOLOGIES.

By James S. Russell, AIA

It's not easy to innovate in an era of slack demand, but a heartteningly scrappy bravura survives nevertheless. Some of the projects in these pages were conceived at the recent dizzy peak of economic optimism and have successfully adjusted to a leaner, tougher era. The Twin Cities firm of ADC thought it would ride the internet wave to years of double-digit growth. Instead, the overbuilt telecommunications sector has driven the company to concentrate almost its entire business in a structure conceived as a headquarters. But with its collaboration-enhancing atria and meeting spaces, and a literal and organizational transparency, that headquarters is proving a strategic asset in the company's climb back to eminence in the wake of the dot-com bust.

Highly talented staff are easier to find in this economy, but many companies have learned from experience that the quality of facilities remains a selling point, one that will come in handy as the labor market tightens. That's why ADT, which operates in the tumultuous and highly competitive financial services arena, didn't scrimp on staff amenities.

Online sales, media, and advertising are brightening spots in the pervasive dot-com gloom, and Montreal's Cité Multimédia is poised to take advantage of improved business conditions with new construction appealing to the so-called culture creatives whose entrepreneurial inclinations, many analysts say, will drive renewed economic growth.

While the Montreal project airily positioned itself contrapuntally to the industrial heft of its environs, BOORA reconceived the suburban office park to fit comfortably within one of Portland's established residential neighborhoods. You don't have to accept the downtown/suburb duality, these projects say. You can succeed in between.

Among the projects with the most potential to change the norms of office building is Foundry Square. By combining the large, open floors of the suburban technology park with the amenities and collaborative possibilities of downtown, it may define a way to have the best of both worlds.

If you can make it in these challenging times, these projects promise, you can only flourish when office-growth returns. ■

For more information about these projects, go to Projects at **www.architecturalrecord.com**.



1.

Mt. Pleasant, South Carolina

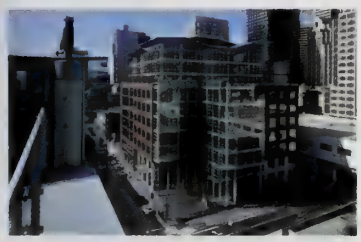
For ADT, Helfand Meyerberg Guggenheimer combined private offices for concentrated work with soaring spaces for collaboration.



2.

Eden Prairie, Minnesota

Hammel, Green and Abrahamson foster collaboration at ADC in a light-filled complex designed from the workstation outward.



3.

San Francisco, California

In Foundry Square, Studios Architecture rejiggered the standard technoburb workplace to take advantage of downtown amenities.



4.

Portland, Oregon

Boora Architects nestled a boldly patterned five-building corporate campus for Adidas into a hilly residential neighborhood.



5.

Montreal, Quebec

With a translucent veil of patterned glass, Dupuis Le Tourneux signals an industrial district's high-tech transformation to Cité Multimédia.

ATD Technology Campus
Mt. Pleasant, South Carolina

1 **MARGARET HELFAND COMBINES MODERNIST FORMS AND VERNACULAR DESIGN ELEMENTS IN A PASTORAL SETTING FOR ATD'S HEADQUARTERS.**

By Suzanne Stephens

Design architect: *Helfand Myerberg Guggenheimer Architects—Margaret Helfand, FAIA, principal in charge; Nial Cain, AIA, project architect; Peter Guggenheimer, AIA, collaborating principal; Jennifer Tulley, Tom Chang, George Scarpidis, Leslie Hamanaka, John Tinmouth, Tom Ambler, Omayya Kanafani, design team*
Executive architect: *McKellar & Associates; Peter McKellar III, AIA, Alan Jackson, AIA, Anne Maguire, Clay Shackelford, Evelyn Jackson, Angie Brose, project team*
Client: *Automatic Trading Desk, Mt. Pleasant, S.C.*
Consultants: *Johnson & King (structural); Barrett, Woodyard & Associates (m/e/p); Susan Nelson/Warren Byrd Landscape Architects (landscape design); Seamon, Whiteside and Associates (civil engineering and landscape architecture)*
Size: *68,000 square feet*
Cost: *$26 million, including site work*
Completion date: *Fall 2002*

Sources
Laminated wood beams and deck: *Structural Wood Systems*
Brick: *Hanson Richtex Brick*
Copper flat-seam siding and standing-seam roofing: *Charleston Metalworks*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

Architects like to say that good design is good business, although empirical proof can be hard to come by. Nevertheless, Automated Trading Desk (ATD), a high-tech financial research and investment company outside Charleston, South Carolina, was more than willing to test the axiom. The serenely elegant complex, which occupies 23 acres of land in Mt. Pleasant, appears to be, at first glance, a well-funded retreat for scholars. The tripartite plan, conceived by Margaret Helfand, FAIA, and her former firm, Helfand, Meyerberg, Guggenheimer (now Helfand Architecture and Guggenheimer Architects), provides private offices to every employee and offers visual and physical accessibility to its parklike setting at every turn and glance.

In a part of the country where the preferred architecture comes with columns, capitals, and cornices, ATD was slightly apprehensive about taking the scheme—with its planar surfaces and asymmetrical geometries—before the local design review board. The board passed it at the first meeting. According to one report, a board member exclaimed, "This architecture raises the bar."

Program

The 15-year-old trading and research firm, started by David Whitcomb (now nonexecutive chairman) and led by his henchmen, the president and C.E.O. Steve Swanson and the C.T.O. Jonathan Butler, formerly occupied a



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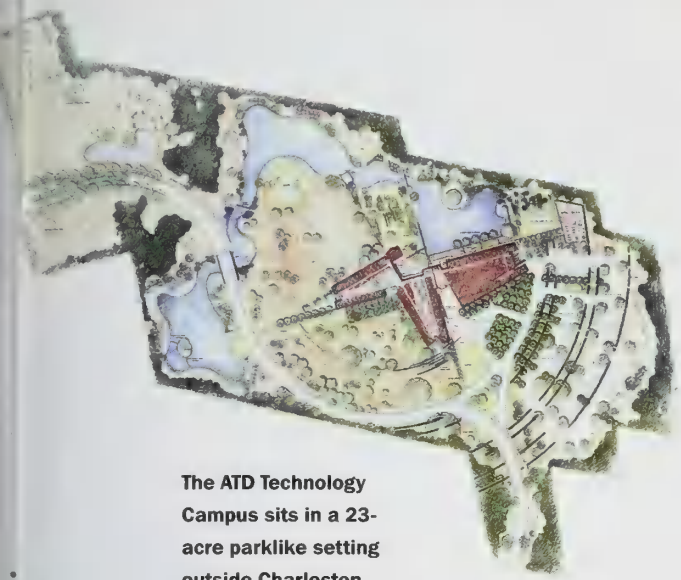
dumpy, increasingly cramped low-rise structure on a commercial strip in Mt. Pleasant. Yet even then everyone had an office (although traders tended to double up as the company grew). The company, which numbers 60, not including 30 in the Chicago office, wanted to expand in such a way that the corporate culture would not be jeopardized. In an organization where traders and software developers work closely together, the staff needed and wanted spaces to allow informal interaction as well as privacy for concentration.

In addition, ADT desired its architecture to reflect an innovative image and impress retail and institutional investors with the company's up-and-coming role as a player in the world of Wall Street. For her part, Helfand desired to create a setting where the employees would experience design as a continuum, extending from the offices to the indoor public spaces and finally out to the landscaped surroundings.

In addition, the program called for a 6,000-square-foot trading room, plus a highly secure 5,000-square-foot data center, with redundant backup energy sources to guard against any contingency, from hurricanes to bombs. On top of that, Helfand needed to fit the 70,000-square-foot building into a site dotted by landmarked live oak trees and laced with cleaned-up storm water retention ponds.

Solution

In order to allow for growth in an unpredictable economic atmosphere, Helfand devised a complex where three wings, each two-stories high, would accommodate 120 offices. Only two wings, with 80 offices, are occupied at this moment. The third wing, at the south end of the complex, contains offices, an executive boardroom, and screened porch with a fireplace all waiting for final fit-out.



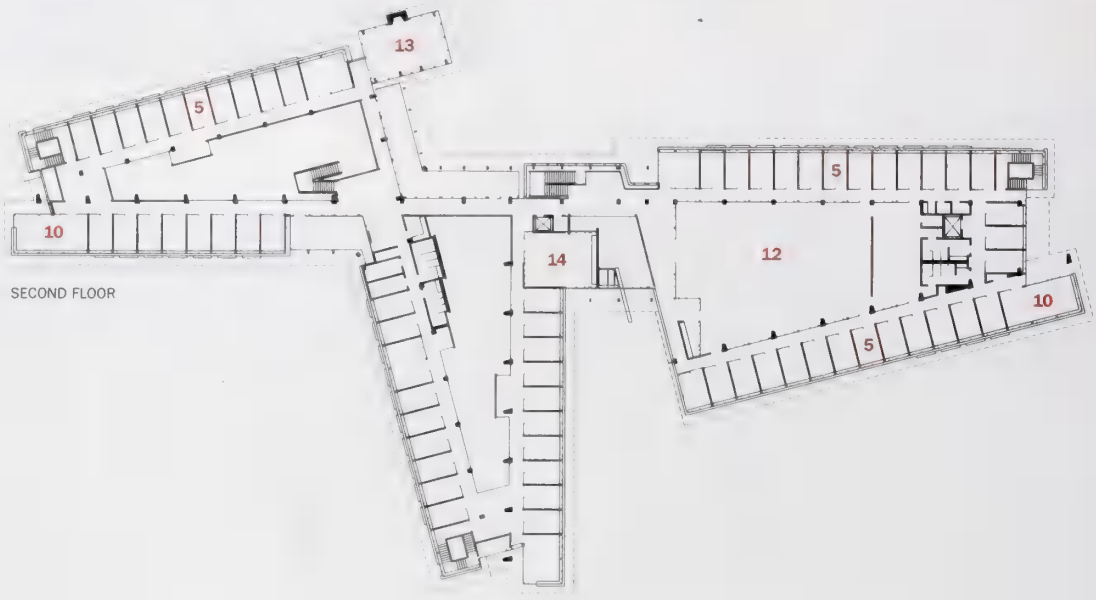


The ATD Technology Campus sits in a 23-acre parklike setting outside Charleston, designed around existing live oaks and drainage ponds.

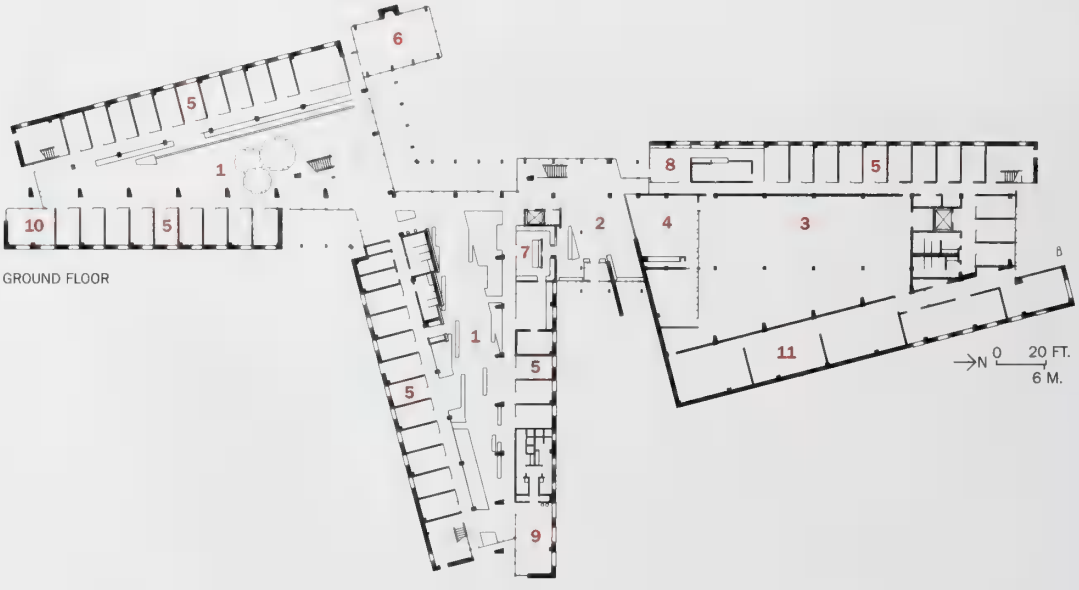


The trapezoidal wings of the two-story building are pulled apart to admit natural light and views through double-height window walls, clerestories, and punched windows. The structure of long-span, glue-laminated beams; steel framing; and concrete pylons permits a variety of vertical spaces as high as 26 feet. Curved copper roofs slip past each other, and brick walls are treated as screens that yield to glass, which covers more than half the exterior surface.





1. *Atrium*
2. *Lobby/reception*
3. *Data center*
4. *Network operation center*
5. *Office*
6. *Screened porch*
7. *Administration*
8. *Kitchen/dining*
9. *Exercise room*
10. *Conference room*
11. *Mechanical/storage*
12. *Trading room*
13. *Boardroom*
14. *Training center*





In the main atrium, floors are surfaced in bluestone, the balcony balustrades are makore wood slats, and offices have sliding doors of translucent glass with windows shaded by wood blinds.



The central stair in the lobby heightens the architectonic quality of the space, with a sculptural composition of granite treads cantilevered from offset stringers of steel and edged with a slatted makore wood balustrade

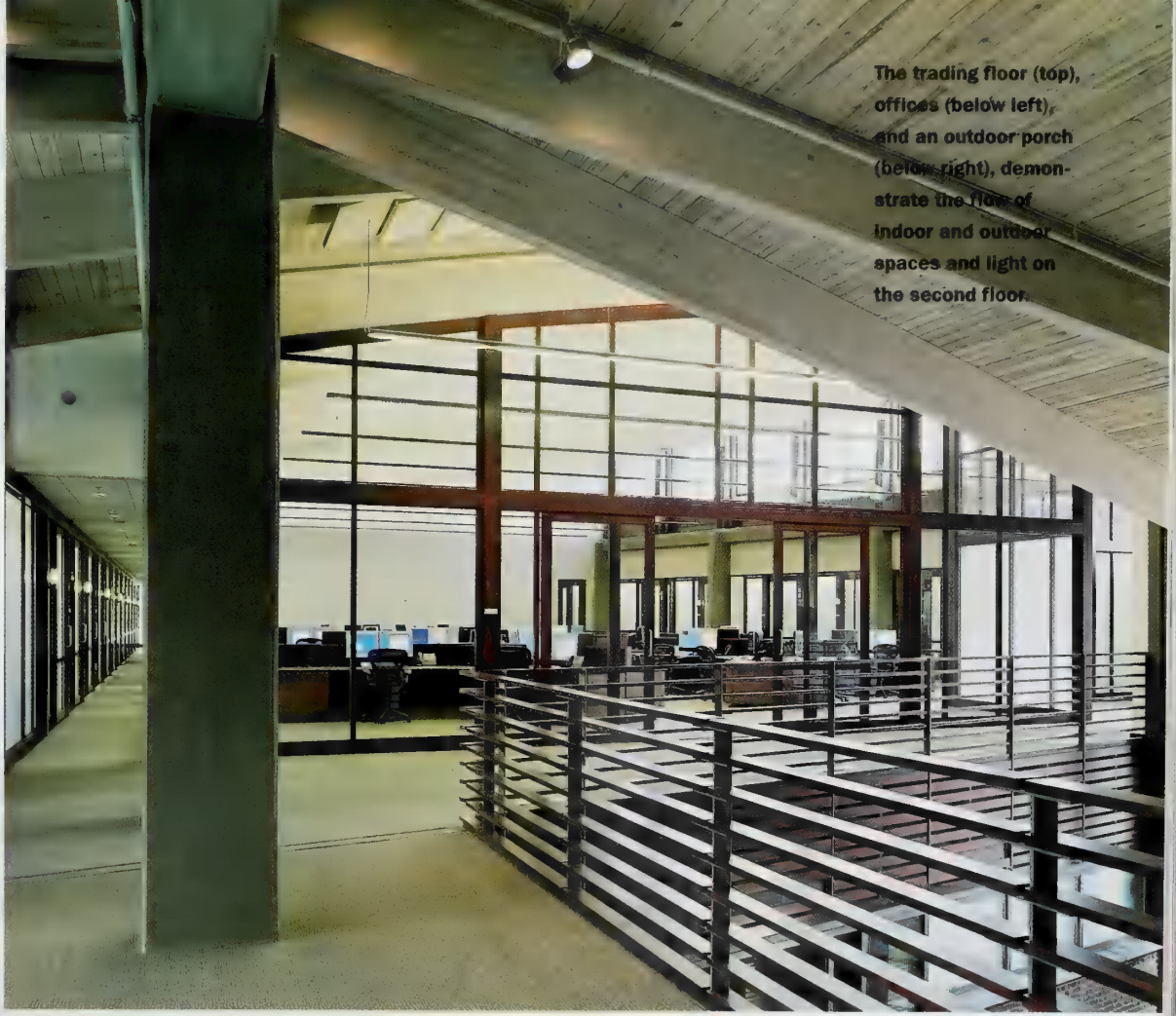
While adhering to this Modernist deployment of fragmented forms, Helfand and her team looked closely at the local vernacular of old agricultural, commercial, and even residential construction. The roofs' deep overhangs, the second-story porches, the dark, blood-red local brick, and the granite lintels and sills around the windows represent some of the materials and elements well known to low-country architecure.

Helfand also designed the building to voluntarily comply with the International Building Code for seismic resistance and other safety concerns, since ATD wanted to ensure its electronic functions would always operate reliably. In addition, windows contain a polycarbonate film laminated between two panels of glass, as a further measure against hurricane damage.

Commentary

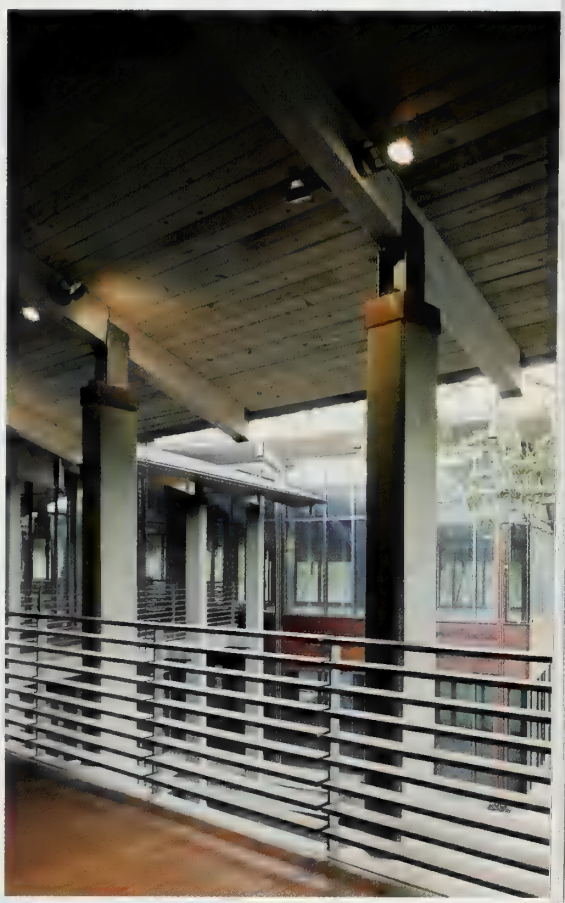
The level of the craftsmanship and materials, the flow of spaces, emphasized by ample natural light, and the overall integration of forms in the landscape attain a quality rare in office buildings. And for those of us drones in open-plan offices who share all the details of our neighbors' professional and personal lives, it is almost too painful to see everyone with a private office. The sense of calm pervading the dramatically high spaces throughout the complex, and the ease with which one can see and experience the outdoors, only adds to acute office envy.

It comes as no surprise that the environment works well for the company. The design is largely credited with boosting revenues from institutional investor clients during the first six months that the building was occupied, from a negligible factor to 18 percent of the firm's business. And while no quantitative studies have been undertaken on employee productivity, informal comments and surveys (e.g., cars in the lots in off hours) suggest that the employees are using and enjoying the building more. As Steve Swanson put it, "I never would have guessed how dramatically this building would change people's perception of who we are." ■



The trading floor (top), offices (below left), and an outdoor porch (below right), demonstrate the flow of indoor and outdoor spaces and light on the second floor.





ADC World Headquarters
Eden Prairie, Minnesota

2 **HAMMEL, GREEN AND ABRAHAMSON FOSTER COLLABORATION IN A LIGHT-FILLED COMPLEX DESIGNED FROM THE WORKSTATION OUTWARD.**

By Camille LaFevre

Architect/Engineer: *Hammel, Green and Abrahamson—Manos Ginis, principal in charge; Dave Taeyaerts, project manager; Leigh Rolfshus, senior project architect; Jennifer McMaster, Christine Peterson, Ginny Lackovic, Jian Lan, Peter Haag, Lauren Wold, Joann McCullough, Naresh Pellegar, Bill Blanski, Doris Rolfshus, Bob Wilcox, Pat Hunt, John Crosby, Mark Johnson, Mark Benjamin, team*
Consultants: *ESI Engineering (acoustical); Robert Rippe Associates (food service); Mary Dreblow (art); Kroll Schiff & Associates (security)*
Contractor: *Kraus Anderson Construction*

Size: *477,000 square feet*
Cost: *$105 million*

Sources
Exterior concrete/masonry: *Gresser*
Curtain wall, glazing, entrances: *Harmon*
Glass: *Viracon*
Carpet: *Milliken*
Raised access floor: *Tate*
Furniture: *Herman Miller*
Lighting: *Prescott; Lightolier*
Lighting controls: *Lutron; Triatek*
Building management system: *Johnson Controls*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

In 1998, ADC Telecommunications—a global equipment, software, and integration-services company—faced dramatic growth and change as the appetite for communications and data services exploded. It planned a new headquarters campus to spur high-speed, cross-discipline collaboration. By the time of its completion, ADC, along with its competitors, had rapidly contracted due to the dot-com bust; but unlike some competitors, it survives. Now leaner, ADC has consolidated operations in this 477,000-square-foot, three-building headquarters. The design's operational and technical flexibility "allowed us to do what was needed with tremendous adaptability and minimal business disruption," says Scott Reinke, ADC's director of real estate and facilities services.

Program

ADC approached Hammel, Green and Abrahamson (HGA), Minneapolis, which had designed the company's prior facilities, about integrating offices, laboratories, and several business units into one campus location. "To strengthen its technologies and product lines, ADC wanted to increase collaboration among its scientific and engineering staff," explains Manos Ginis, AIA, principal and senior designer at HGA. "They asked us to design a work environment that would help employees participate in multiple projects and teams simultaneously." ADC also stipulated that the new building should express the company's "bold and confident business spirit," Reinke says, in order to tap national and international talent.

Camille LeFevre, a writer, is editor of Architecture Minnesota.



Solution

HGA designed the campus from the workstation outward, Ginis says, with employee comfort, control, and productivity in mind. Access floors, raised 24 inches, house easily reconfigurable conduit, wire, and data cabling, as well as an underfloor air-distribution system that allows each workstation to have a personal energy-management system. With this feature, employees can control the temperature and lighting of their immediate surroundings.

During a companywide survey conducted prior to design, natural light was the amenity most requested by employees. To ensure natural light reaches every workstation, HGA divided the floor plates with full-height, skylighted atria (plans, page 164), stacked with glass-wall conference rooms and open stairs. Most people work close to an atrium or an outside wall.

To support this strategy, HGA conducted extensive energy studies to calculate the optimum balance of exterior fenestration and energy use. At intervals, the architects pushed out the exterior walls to create sun-drenched edge atria with their own connecting stairs and team work areas. The inventive use of the atria creates more "exterior" exposure for workers without pro-

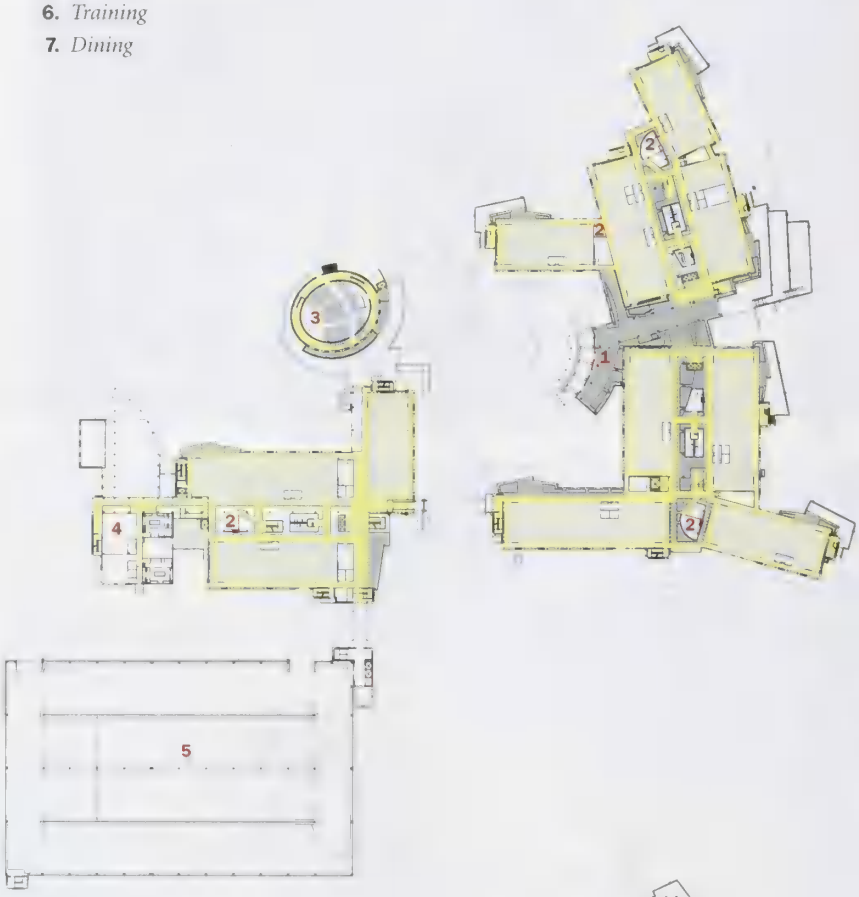
PHOTOGRAPHY: © ORASCOM

What was once conceived of as a discipline-mixing corporate headquarters in the Twin City suburbs now houses most of the operations of ADC. The entrance (right), with conference rooms stacked above, immediately expresses the collaborative intention. Additional gathering places are expressed by the projecting sections of the exterior (below), including the lofty dining area, which opens onto a terrace (opposite).

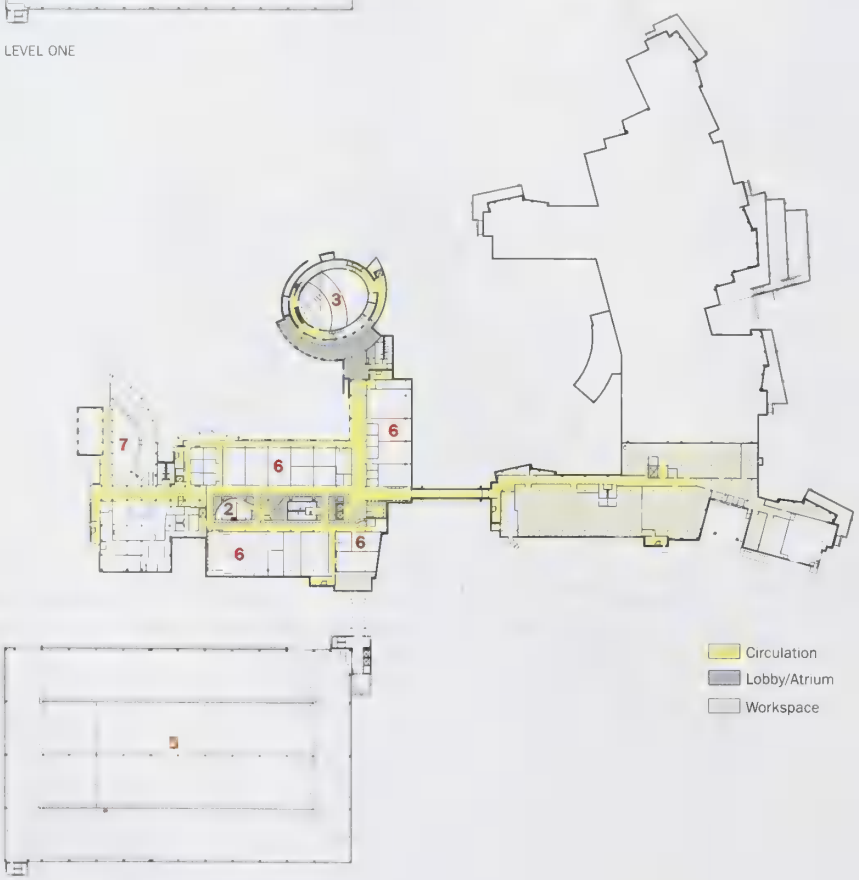




1. *Lobby*
2. *Conference*
3. *Auditorium*
4. *Fitness*
5. *Parking*
6. *Training*
7. *Dining*



LEVEL ONE



LOWER LEVEL

N 0 30 FT. 9 M.



An oval, 300-person auditorium and a light-filled dining pavilion (plans, left) draw people to the edges of the complex, encouraging interaction.

ducing an excessive amount of building perimeter (expensive in terms of construction cost and energy use).

"Employees are aware of their immediate surroundings, as well as the entire complex," Ginis says. "The goal was to design a work environment that provides a sense of place for each employee while reinforcing the notion that everyone is part of the whole." The visual connectivity is systematically supported by the open stairs and corridors, providing a plethora of opportunities for impromptu meetings.

Through a combination of sustainable-design strategies—including lighting occupancy controls, high-efficiency chillers and boilers, and premium efficiency motors for fans and pumps—the ADC facility has reduced total energy use by 45 percent compared to code-performance requirements. Because the site is dotted with ponds and wildlife-sheltering marshes, the five-level parking structure took the place of extensive surface parking

With unique functions brought to the exterior and differences punctuated by the use of masonry and glass, the campus takes on a villagelike richness (below). Atria open onto terraces offering panoramic views of the pond-dotted landscape (site plan, right, and photo, opposite).



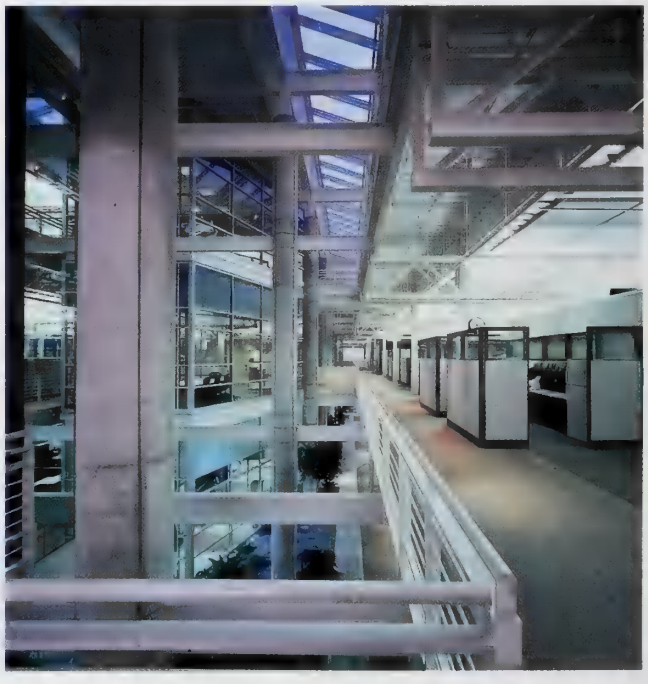








With circulation on the outside (below) and floor-to-floor heights of 16 feet, natural can light reach the deepest part of the floor. Conference rooms are stacked in an atrium (left). Light, spacious dining (above).



that would otherwise be required, while reducing runoff that could damage water quality. ADC threaded the 93-acre property with walking paths, transforming a legal obligation into an amenity.

Commentary

Before the design process was initiated, ADC employees stipulated a healthy daylit interior environment, while ADC mandated a facility that would set a new benchmark for employee recruitment and retention, and operational flexibility. On all counts, the facility beautifully delivers. With its premium indoor air quality, soaring light-filled spaces, open, fluid floor plan, and transparent boundaries between indoors and outdoors, the facility promotes a communal atmosphere both uplifting and unburdened by the low ceilings and undifferentiated fluorescent glare that is the corporate norm. The troubled telecommunications market won't make the short-term future easy for ADC. It sees this new facility as more than a tangible asset in an economy of volatile stock valuations. By offering a pleasing and invigorating environment that supports teamwork, and one that communicates a business culture of innovation and employee equity, ADC sees its campus as a significant competitive tool. ■



The extensive use of atria and glass and the exposed-steel interior structure, as in the lobby (this page), create an environment of unusual transparency—a workplace goal as well as an amenity.

Foundry Square
San Francisco, California

3 **STUDIOS ARCHITECTURE REJIGGERED THE STANDARD TECHNOBURB WORKPLACE TO TAKE ADVANTAGE OF DOWNTOWN AMENITIES.**

By Lisa Findley

Architect: *Studios Architecture—Darryl T. Roberson, FAIA, principal in charge; David M. Johnson, AIA, design team leader; Clifford Wong, Peter Buffington, Cliff Peterson, AIA, Melissa Duffy, AIA, Vera Tse, Tetsu Nagata, Jeffrey Benningfield, Joseph King, Joseph Trott, Sharon Lahr AIA, project team*
Consulting architect: *Jim Jennings Architecture*
Engineers: *Nishkian Menninger (structural); Flack + Kurtz (m/e/p)*
Consultants: *The SWA Group (landscape); Auerbach + Glasow (lighting); Israel Berger & Associates (curtain wall); Erler & Kalinowski (environmental)*

Size: *Building Two: 600,000 square feet gross with floor areas of 65,700 square feet and 37,100 square feet; Building Four: 280,000 square feet gross with floor areas of 29,100 square feet and 17,600 square feet*
Completion date: *2003*

Sources
Stone-clad wall panels: *Clark Pacific*
Curtain wall: *Architectural Glass and Aluminum*
Flooring: *Flamed Black Chinese Granite; American Terrazzo; Endicott Clay Products (brick)*
Raised access floor: *Tate*

For more information about this project, go to Projects at www.architecturalrecord.com.

One outcome of the blossoming of high-tech office spaces in the past decade has been the discovery that creative business culture thrives when the environment enables a great deal of interaction. An increasing number of companies want to be downtown but see the chief limitation of high-rise buildings as the inability to get working groups together on the same floor. In the San Francisco Bay Area, large floor plates were easy to achieve in the office-park settings of Silicon Valley. With small parcel sizes typical of downtown San Francisco, however, buildings with generous contiguous space are rare. Developer Bill Wilson set out to capitalize on this shortage by assembling a large block of land in the South of Market neighborhood. He then hired Studios Architecture, a firm with deep experience in the Silicon Valley marketplace, to design space that made the most of in-city advantages. The result is Foundry Square.

Program

Bill Wilson is not just any developer. He is a respected art collector who lives in a house designed by San Francisco archi-

Contributing editor Lisa Findley writes about architecture and teaches at the California College of Arts and Crafts in San Francisco.



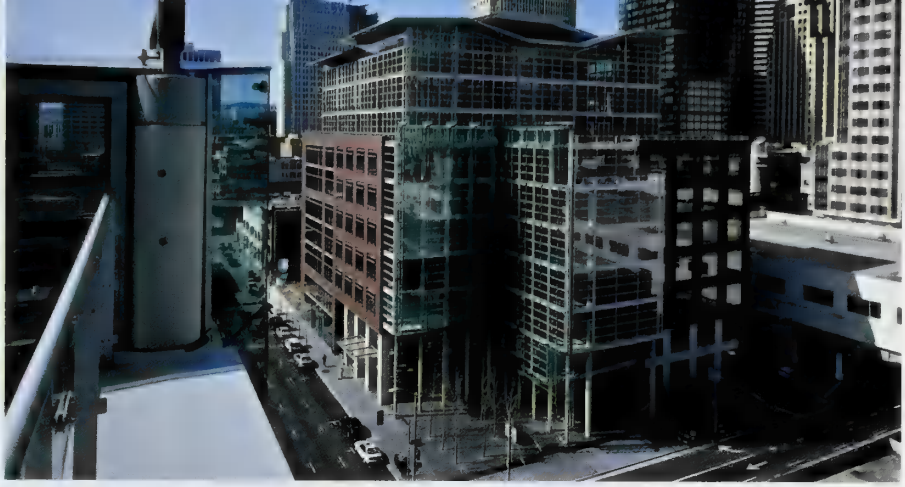


1. *Lobby*
2. *Office*
3. *Retail*
4. *Plaza*
5. *Parking/service*

PHOTOGRAPHY © TIM GRIFFITH, EXCEPT AS NOTED

An undulating roofscape signals the presence of the mid-rise Foundry Square against the high-rises of downtown and the encircling ramps of the TransBay bus terminal and Bay Bridge (below).

Masonry-faced concrete panels address South of Market's history of industrial-brick toughness (opposite), while double-walls of glass present a suave backdrop to intimate plazas (right).



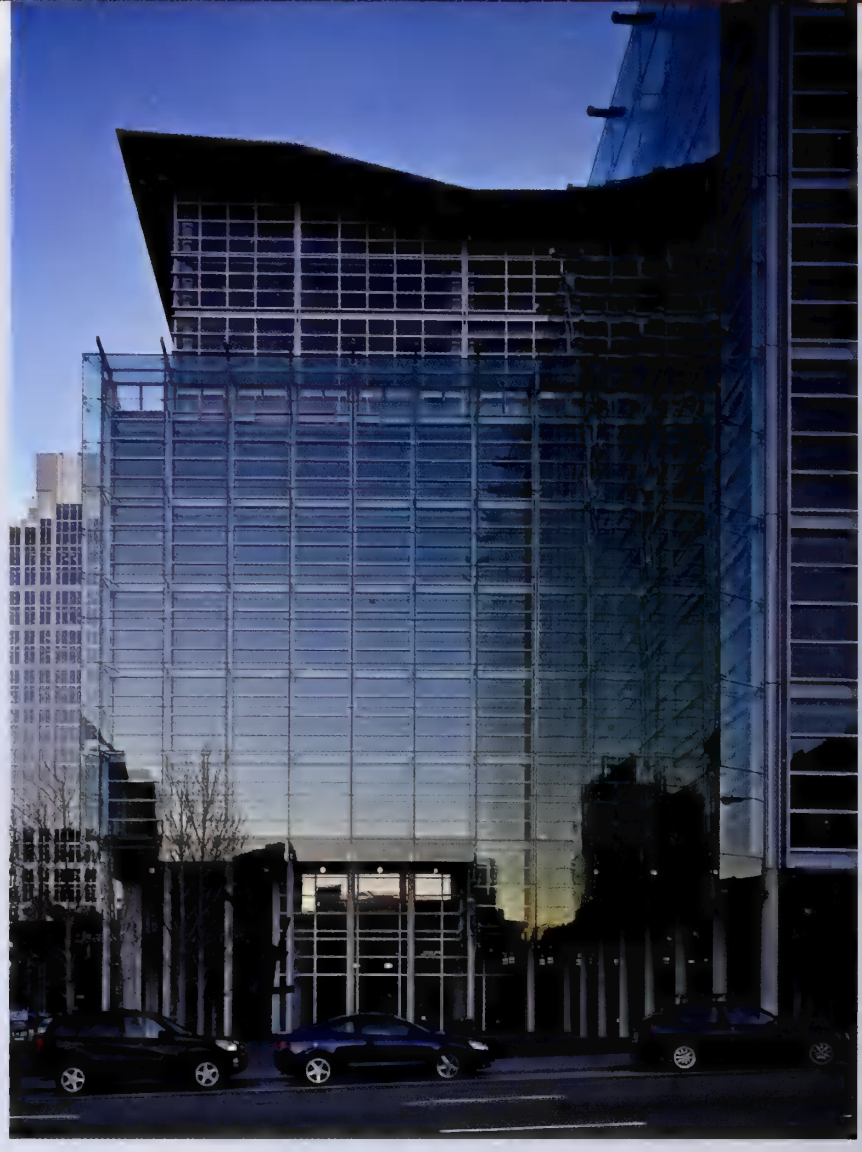


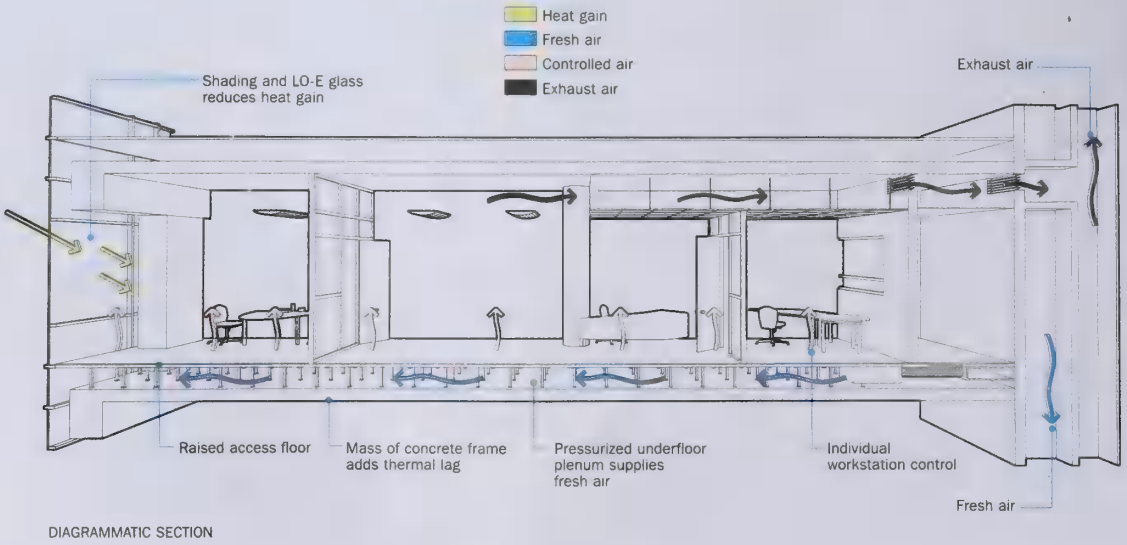
Competing on Comfort

The Foundry Square campus may be the first American speculative project to incorporate the kind of energy-conserving and amenity-enhancing technologies that have now become common in Europe.

The raised floor system, which conceals a modular, completely flexible wire-feeding system, also forms a continuous plenum pressurized with supply air (section diagram, below). Because San Francisco's climate is moderate, the system most often delivers 100 percent fresh air that is neither heated nor cooled. (The thermal lag added by the building's concrete frame further levels temperature fluctuations.) To offer the same cooling, a ceiling-delivery method would have required mechanical systems to remove 10 additional degrees of heat. The floor system allows individual control of air to every workstation. Outside air can also purge the entire building of accumulated heat during the night.

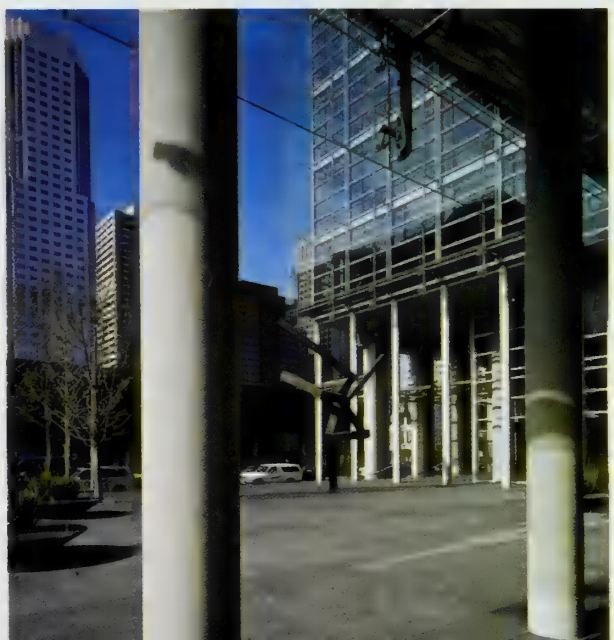
The double-wall curtain walls facing the plazas act as thermal and acoustic buffers but cannot vent exhaust air, as do many advanced European buildings, because openings from the building interior to the air space are proscribed by U.S. model building codes. (The concern is that the thermal chimney could funnel smoke and flames from floor to floor. European codes deal with this risk in a different way.) It took a year to get local officials to approve the assembly that was ultimately installed—testimony to the tenacity of both developer and architect. *L.F.*





DIAGRAMMATIC SECTION





The roof overhang and the mullion projections of the upper-level glass pavilions contribute to solar shading (above). The double-glass walls facing the plazas thermally buffer interior space while offering an ever-changing play of light and reflections (opposite and above).

tect Jim Jennings. His high architectural ambitions for Foundry Square were clear at the outset when he hired Studios Architecture, then retained Jennings to serve as a consulting architect. And the site he put together wasn't just another vacant lot. Wilson obtained land on four corners of the intersection of First Street and Howard, the long-empty site of a foundry. The busy intersection is wrapped by looping elevated ramps dropping from the Bay Bridge to the bustling TransBay bus terminal next door.

Even at 1.25 million square feet, a mid-rise project can't assert its identity the way a high-rise can—especially in a location outside the traditional downtown core. The architects gave presence to the four-building complex through gestures that unified the four sites while recognizing the unique aspects of each. Wilson originally targeted technology and multimedia tenants, who already were comfortable in the neighborhood, with Class A office space that included underground parking, ground-floor retail, and that downtown rarity, public open space. Wilson also thought tenants would appreciate efficient and environmentally conscious building systems. (See "Competing on Comfort," page 170.)

Solution

The architects approached the design of Foundry Square on three scales simultaneously: that of the sidewalk, the street, and the city.

The architects created breathing space for the commuter throngs passing through the intersection by carving a plaza at each corner. (The open space was required by the city, but Studios could have simply pushed it all onto one site.) The result is a huge implied square that straddles the intersection. A grid of young trees planted on each corner, along with stone planters offering wide edges for sitting in the sun, enliven these spaces. A café opens onto the largest plaza from a colonnade of slender columns. The result is a handsome, 200-foot-square, glass-lined outdoor room that cars





Technology firms have embraced large, often dark floor plates in the suburbs. In housing as much as 65,700 square feet on a floor, Studios has enhanced the environment by providing loftlike floor-to-floor heights, recesses to reduce the depth of the plan, and a generous light court punched through the middle (top). Stores will open to the generous lobby. Stairs (above) reconcile a grade change.

and people pass through. In a city where most buildings resolutely hold the corner, this petite piazza surprises the passerby.

The first seven floors hug the street edges up to the height of the old warehouse buildings that still dot the neighborhood. Glassy three-story pavilions, set back, rise out of this hefty base. They reduce the apparent mass of the buildings and open to roof terraces with panoramic views. It's easy to pick out the undulating roof profile of the eight-story project from the Bay Bridge, the TransBay Terminal bus ramps, and the high-rise buildings that loom only a block away.

Alternating recesses and projecting curtain-wall mullions not only give the facades a tactile depth and a comfortable scale, they shade the interior. A separate, external curtain wall veils the elevations that line the square. These strategies result in a building envelope that significantly exceeds the new California Title 24 energy-performance requirements.

A 30-foot-square concrete structural grid and office floor-to-slab heights of 12 feet offer appealing and flexible space. For warehouse-chic tenants, an energy-conserving underfloor HVAC system permits the unobstructed concrete ceilings to be left exposed. On the desirable top floor, the ceilings soar under the roof's curves. A mezzanine is tucked under the highest pitch.

Commentary

The dot-com crash and the national economic slowdown has meant that only two of the four corners of Foundry Square have been finished so far. They sit opposite each other, the promised urban square bracketed but not complete enough to be easily discerned. What is easy to tell is that the project far surpasses most recent office construction in San Francisco in its sensitive detailing, design, and execution. Even in a glutted office market, it was 60 percent leased before it opened. From the top deck of the Bay Bridge, the folded roofs of the two completed buildings promise a new icon in the city. ■

The contemporary, adaptable interiors, like the lobby (this page), were targeted to technology-sector tenants. With that industry in retreat, they have proved appealing to a different class A lessee entirely: The prime tenant is a law firm.



Adidas Village
Portland, Oregon

4

BOORA ARCHITECTS NESTLED A BOLDLY PATTERNED FIVE-BUILDING CORPORATE CAMPUS INTO A HILLY RESIDENTIAL NEIGHBORHOOD.

By Randy Gragg

Architect: *BOORA Architects—John Meadows, AIA, Denny O'Toole, AIA, Eric Cugnart, Phill Chubb, AIA, Tom Bauer, AIA, Janet Bebb, Greg Flinders, AIA, Bronson Graff, Michael Gregg, AIA, Sallie Martinson, Randall Heeb, AIA, Jennifer Korbich, Kevin Nyhoff, Dave Perzik, AIA, Chad Schmidt, Bill Small, AIA, Amy Smith, Stuart Spafford, AIA, Chris Spurgin*
Interiors architect: *LRS Architects—Steven A. Lee, AIA, Michael Roberts, Marci Krauss, Todd Lenthe, Kevin Underwood, Sidney Hunt, Michael Lehner, Jennifer Wright-Dykhouse, Michelle Startt, Ken Dixon, Bob Easton*
Engineers: *KPFF (structural); Glumac International (mechanical); Christenson Electric*
Consultants: *David Evans & Associates and Lango Hansen Landscape Architects (landscape)*
Contractor: *R&H Construction*
Size: *360,000 square feet (offices and support); 318,000 square feet (parking)*

Sources
Metal/glass curtain wall: *Arcadia*
Metal panel: *Alucobond*
Glass: *PPG*
Acoustical ceilings: *Armstrong; Illbruck Architectural Products; Alpro Acoustics*

For more information about this project, go to Project Journal at **www.architecturalrecord.com.**

More babies were born in Bess Kaiser Medical Center than any other hospital in the city of Portland. But when the hospital moved in 1996, the building needed its own rebirth. Built in five phases over 30 years, it had been—like most hospitals—designed like a bunker, the internal connections maximized with no attention to the surrounding neighborhood. But open floor plates offering panoramic views of downtown, the Willamette River, and the forested West Hills—plus acres of parking with direct freeway access—virtually guaranteed this suburban island in the city could have a second life.

When Adidas America signed on as the new occupant, however, Portland got more than it bargained for: a bouncing baby urban village. Designed by BOORA Architects, with LRS Architects overseeing most interiors, the new Adidas Village offers a polite architectural handshake to the pre–World War II neighborhood next door while being the most exuberant architectural addition to the city since Michael Graves's Portland Building.

Program

BOORA and LRS faced no shortage of challenges. Adidas wanted 360,000 square feet, with room for future expansion to 680,000. The former hospital's 10.5-acre site was ample, but it was divided by a four-lane truck route and a 30-foot grade change, connected solely by a skybridge. While two of the hospital's existing wings had shallow, 80-foot-wide floor plates ideal for offices, vast portions of the 240,000-square-foot complex were far deeper. The existing 8-foot ceiling heights were fine for patients, but hardly the most uplifting environment for a youthful corporate creative headquarters.

As well, the designers had to reflect the company's internal ethic of equality, negating any perception of a preferred side of campus. Then-president of Adidas Steven Wynne asked for "a village" that would unify the campus and transform the drab, beige buildings into a symbol of a company devoted to sport.



Solution

Led by Eric Cugnart, BOORA's team conceived of a multitier scheme of urban connection and chromatically boisterous architecture. The finished campus comprises the renovated hospital to the west and two office buildings on the east, bracketing an iconic, elliptically shaped athletic and conference facility.

Using the grade change to advantage, BOORA designed an 830-car garage to slide into the excavated hillside, roughly retaining its former contours. Load-bearing fins face the street, providing a screen of strong vertical elements while creating bays for landscaping that eventually will further obscure

Randy Gragg is architecture critic of The Oregonian, *in Portland.*



A wide stair and a bridge over a busy street invite staff and visitors to the upper-plaza entrance to the East Village (this page), which opens onto playing fields over a parking structure (opposite).





The bright blue oval of the fitness center (top) contrasts with the boldly patterned office structures. The patterned cladding totally covers two of the new buildings except for the inexpensive slate tile anchoring their bases. On the former hospital buildings (above), the patterned skin provides only an accent (though on one elevation it entirely replaced a rotted, asbestos-laced curtain wall), creating the effect of a reflection of the new buildings on the old.

the garage's horizontal voids.

The entire east campus sits atop the parking deck, with the trio of buildings separated from the adjacent residential neighborhood by a soccer field and tennis courts. A new, gently arched concrete bridge supported by canted, contoured columns connects the campus halves at an upper level. A wedge-shaped plaza also unites the campus across the four-lane divide at the street.

The design incorporates several measures to balance any employee preferences of old buildings over new. Adidas suggested the employee cafeteria be located in the former hospital so that every employee used the building. Cugnart convinced the company to forgo any direct elevator access for car commuters from the garage directly into the buildings. Instead, three garage elevators feed drivers through the east plaza to various building entrances, activating the plaza as commuters arrive and leave.

Further unifying the upper, lower, new, and old, is a cladding Cugnart dubbed the "active skin," designed, as he describes it, to "stretch like fabric around the volumes." Using a dry-joint system of metal panels painted with Kynar, the pattern rotates around alternating vertical and horizontal windows in a complex system of grays punctuated by a single bright color for each building, drawn from one of the seven Olympic rings. Window sizes were limited by the varied ceiling heights of the buildings, with the surrounding pattern's proportions growing or shrinking accordingly.

With the deep joints further articulating each panel, the active skin has the subtle complexity of an intricate masonry pattern. The athletic facility stands apart, clad in brilliant blue but inset with sneaker-like silver stripes. With the campus labeled by only two small versions of the Adidas logo, the company lets the architecture announce its presence, the 20-foot-high windows of the athletic center acting as the campus' chief advertisement.

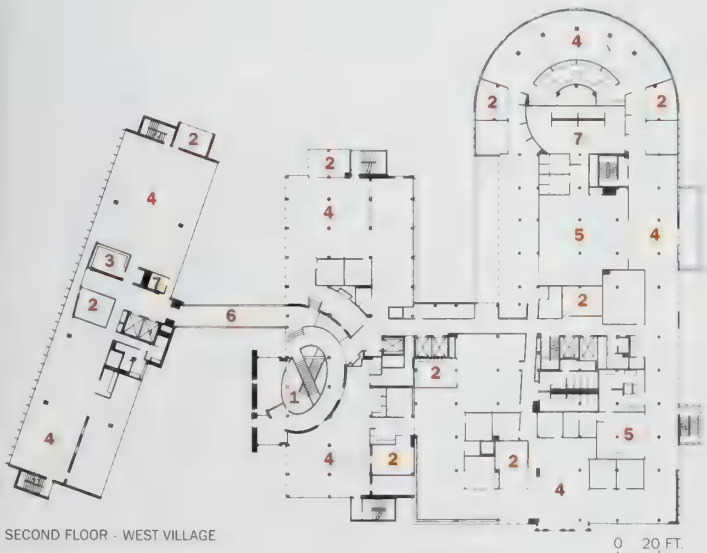
LRS's Michael Roberts expressed what he describes as



1. *Mexico 1968*
2. *Athens 1896*
3. *Rome 1960*
4. *Tokyo 1964 (fitness)*
5. *Chamonix 1924*
6. *Sports courts over parking structure*
7. *Parking*
8. *Terraced plaza*
9. *Footbridge*

SITE PLAN

N 0 100 FT. 30 M.



SECOND FLOOR - WEST VILLAGE

0 20 FT. 6 M.

1. *Atrium*
2. *Conference room*
3. *Library*
4. *Office*
5. *Lab*
6. *Skybridge*
7. *Storage*

City officials vetoed BOORA's wise plan to articulate the plaza across the dividing street by pouring an inlaid walk in the asphalt. But an intimate patio at the west plaza's apex (site plan) and a gracious, Baroque-like staircase rising around the elliptically shaped athletic facility (photo, top) handily make the implied connection.

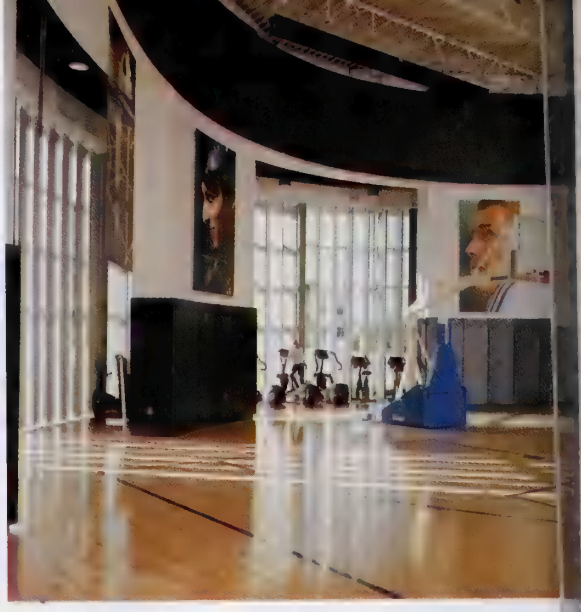


WEST VILLAGE (FORMER HOSPITAL)

0 20 FT. 6 M.

EAST VILLAGE



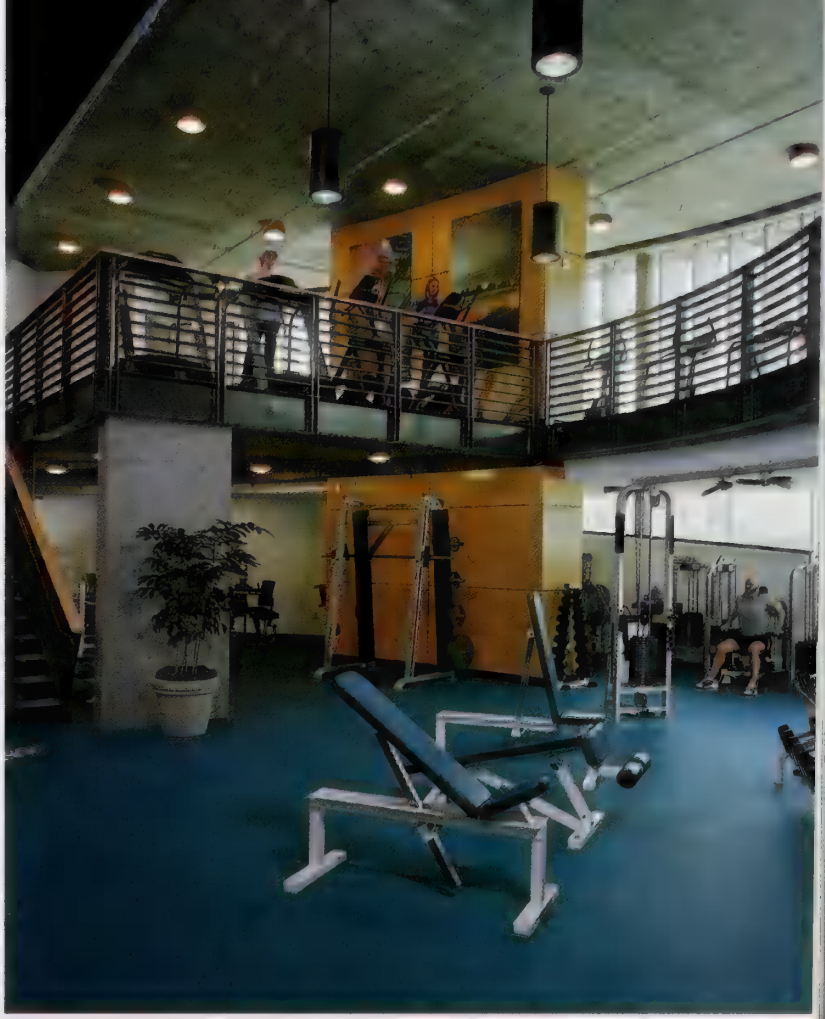




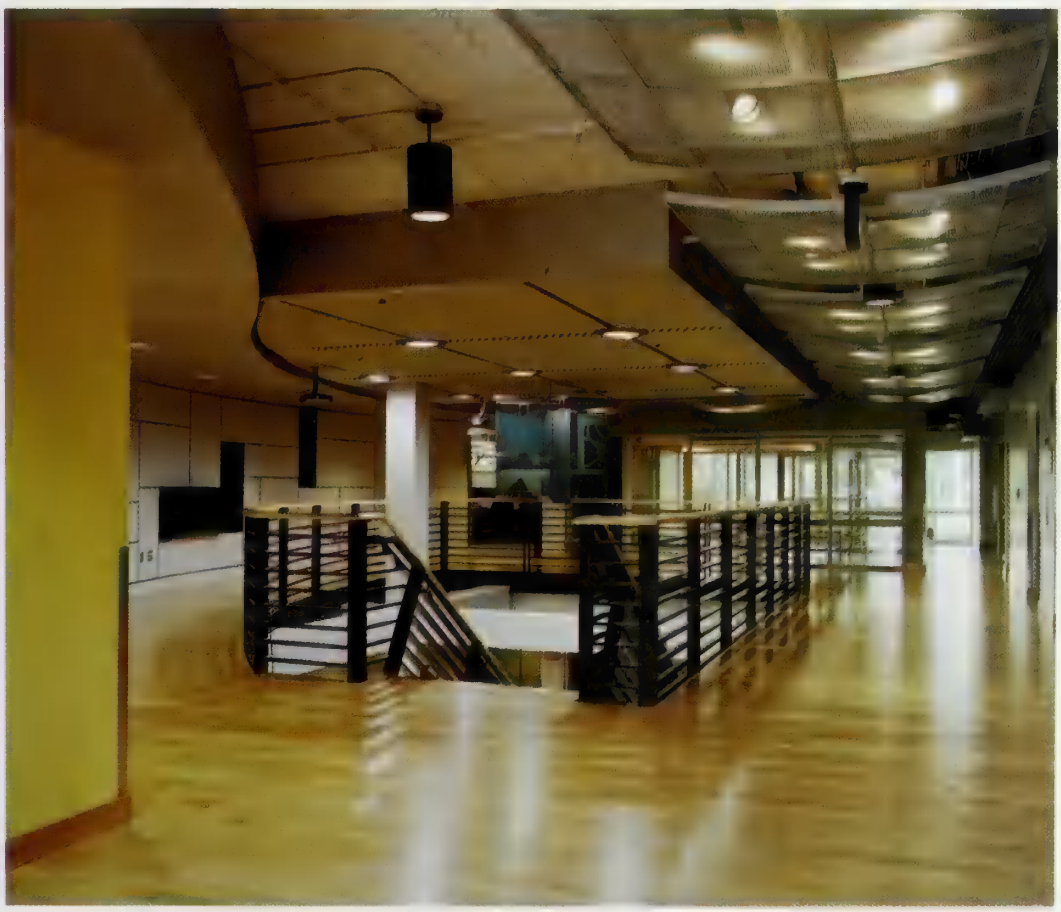
Adidas's "corridor culture" of constant movement between departments by keeping the circulation and conference rooms at the center, saving the views for those at their desks. A double-height, elliptically shaped atrium lobby in the former hospital greets those arriving on the bridge with an echo of the athletic center. To make the best of the low ceiling heights in the former hospital, LRS kept the ductwork and wires exposed and easily accessed through black metal grates reminiscent of gym-locker doors. Circular, double-height gathering areas help break up the sprawling floor plates of the old hospital's lower levels. The circle motif is echoed in cutouts in the new seismic sheer walls on each floor.

Inside the athletic facility, Cugnart designed an innovative sunshade system comprising 170 2-foot-by-20-foot louvers made of lightweight aluminum skin sandwiching paper honeycombs. Swiveling on vertical pivots and rods, they move, six at a time, with no more effort than a push of a finger, to either mitigate the sun's rays or darken the room entirely for company presentations.

Largely designed before LEED certification, the campus nevertheless won local certification by Portland General Electric's Earth Advantage program for the recycling of construction refuse, reuse of the old mechanical systems, and energy efficiency.



LRS made the most of the company's "corridor culture" of informal idea-sharing by offering appealing places to pause, as at the low-ceilinged lobby in the former hospital (below) and on the atrium stair (opposite, bottom). High glass walls, protected by winglike pivoting louvers (right and opposite, top) open into the fitness center, "advertising" the company's purpose to passersby.



Commentary

While the interiors are gracious and the views stunning, the greatest successes of the Adidas Village are its benefits for the neighborhood, the city, and the Adidas brand. In stark contrast to the famously bermed suburban campus of its local competitor, Nike, the new Adidas America headquarters offers an urban version of the corporate campus. Cugnart describes his design as "friendly Modern architecture that doesn't compromise." Indeed, it respects the surrounding neighborhood without stooping to palliative domestic touches—boldly embracing the city while proudly standing out. ■

Cité Multimédia Phase 8
Montreal, Canada

5 **DUPUIS LE TOURNEUX SIGNALS AN INDUSTRIAL DISTRICT'S HIGH-TECH FUTURE WITH A TRANSLUCENT VEIL OF PATTERNED GLASS.**

By Rhys Phillips

Architect: *Menkes Shooner Dagenais/Dupuis Le Tourneux Architects—Anik Shooner, Jean-Pierre Le Tourneux, Benoît Dupuis, Julie Morin, Paolo Zasso, Alain Boudrias, Isabelle Landry, Alexandre Parmentier, Guillaume DeLorimier, Anne-Sophie Allard, Benoît Gérard, Caroline Élias, Catherine Bélanger, Dominique Genest, Harvens Piou, Isabelle Roy, Marc Aubry, Marc-Antoine Larose, Pierre Gervais, Réal Leblanc, Robert Dequoy, Stéphanie Bastien, Sylvain Gagné, Vincent Lauzon, Yvon Lachance*
Engineers: *Nicolet Chartrand Knoll, Martoni Cyr & Associates (structural); Leroux, Beaudoin, Hurens & Associates, Bouthillette, Parizeau & Associates (mechanical); Énerpro (electrical)*
Contractor: *Verreault/Marton*

Size: *377,000 square feet*
Cost: *$33.8 million (Canadian)*

Sources
Masonry: *Endicott*
Curtain wall: *Thermalite*
Metal windows and doors: *Industries Gamma*
Metal cladding: *VM Zinc*
Tile: *Ceragres/Tuiles Cremazie*
Resilient floor: *Forbo*
Lighting: *Novus; Lightolier*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

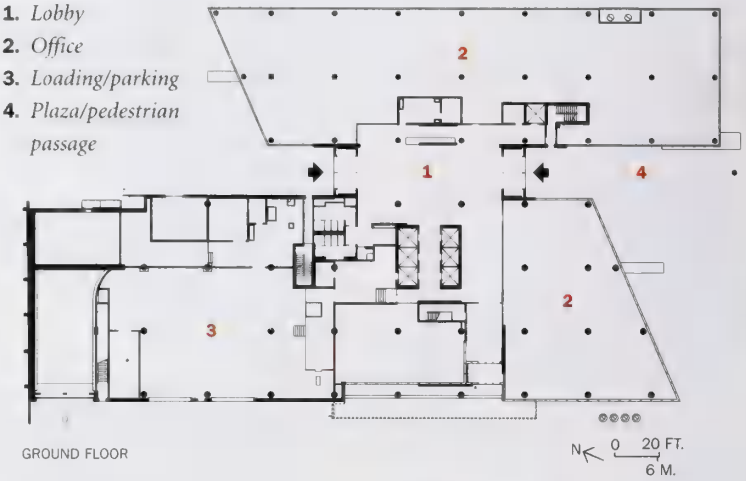
Cité Multimédia is a major urban redevelopment initiative in Montreal's Faubourg des Récollets district. Located west of the city's old town and immediately north of the now-restored Lachine Canal, this historic industrial area bustled during the 19th and early 20th centuries, then slipped into decline. An intrusive off-ramp terminating the Bonaventure freeway as it careens into Montreal's core did little to help.

In 1998, however, the city's public land development corporation formed a partnership with the Quebec government's public-investment fund and the Quebec Labour Unions' Economic Development Fund to redevelop the area as a business-incubator hub focused on high-tech media. To date, eight buildings have been realized within an urban plan, by Groupe Cardinal Hardy with Provencher Roy and Associates, that retains both the district's historic industrial buildings and the Faubourg's intimate street scale and low-rise building pattern.

Program

Phase Eight, designed by Dupuis Le Tourneux Architects in partnership with Menkes Shooner Dagenais Architects, is the second of three planned buildings intended to form a protective screen in front of the freeway. Given its location below the elevated bend of the off-ramp, the city demanded an architectural "billboard" signaling the presence of the Cité Multimédia and a clear gateway to the downtown core.

Equally important, the design had to respect and enhance the area's remarkably intimate urban fabric of narrow streets and relatively low buildings while providing marketable, flexible, and humane working space.



Solution

The architects first convinced the city to abandon its initial requirement for a 12-story tower and return to the urban design plan's idea of compact, linked volumes. They convinced officials that a lower building could, with another planned building on the west side of the highway, create the powerful emblem the city desired.

Dupuis and Le Tourneux split the complex into two parallel slabs pushed out to the street edges (plan, above). On the eight-story wing, facing west, a glass-screen facade seems almost to float above the highway like a giant suspended plasma screen animated by the profiles of workers moving behind its ceramic-frit, patterned glass (opposite). "We like to work with different layers and transparencies of architectural skins that separate the users from the environment but create a sense of seeing and being seen," says Jean-Pierre Le Tourneux. At the same time, its pattern alludes to a giant printed circuit board.

The scale and materials of the lower wing, a five-story, Minimalist, brick-and-zinc box punched with large

Rhys Phillips writes about architecture and urban design and was recently inducted as an Honorary Fellow of the Royal Architectural Institute of Canada.

PHOTOGRAPHY: © MARC CRAMER

A lobby and pedestrian passage (right) from outdoor plazas (plan, opposite) separates the zinc-clad, eight-story wing from its five-story, masonry-faced, punch-windowed partner (below). The glass "circuit board" signals the Faubourg's new "industry" (far right).







windows, reflects the scale, simplicity, and materiality of its historic industrial neighbors. "By lowering the scale of this side of the complex," says Le Tourneux, "we protected the existing scale of the inner neighborhood and the intimacy of its lanelike streets."

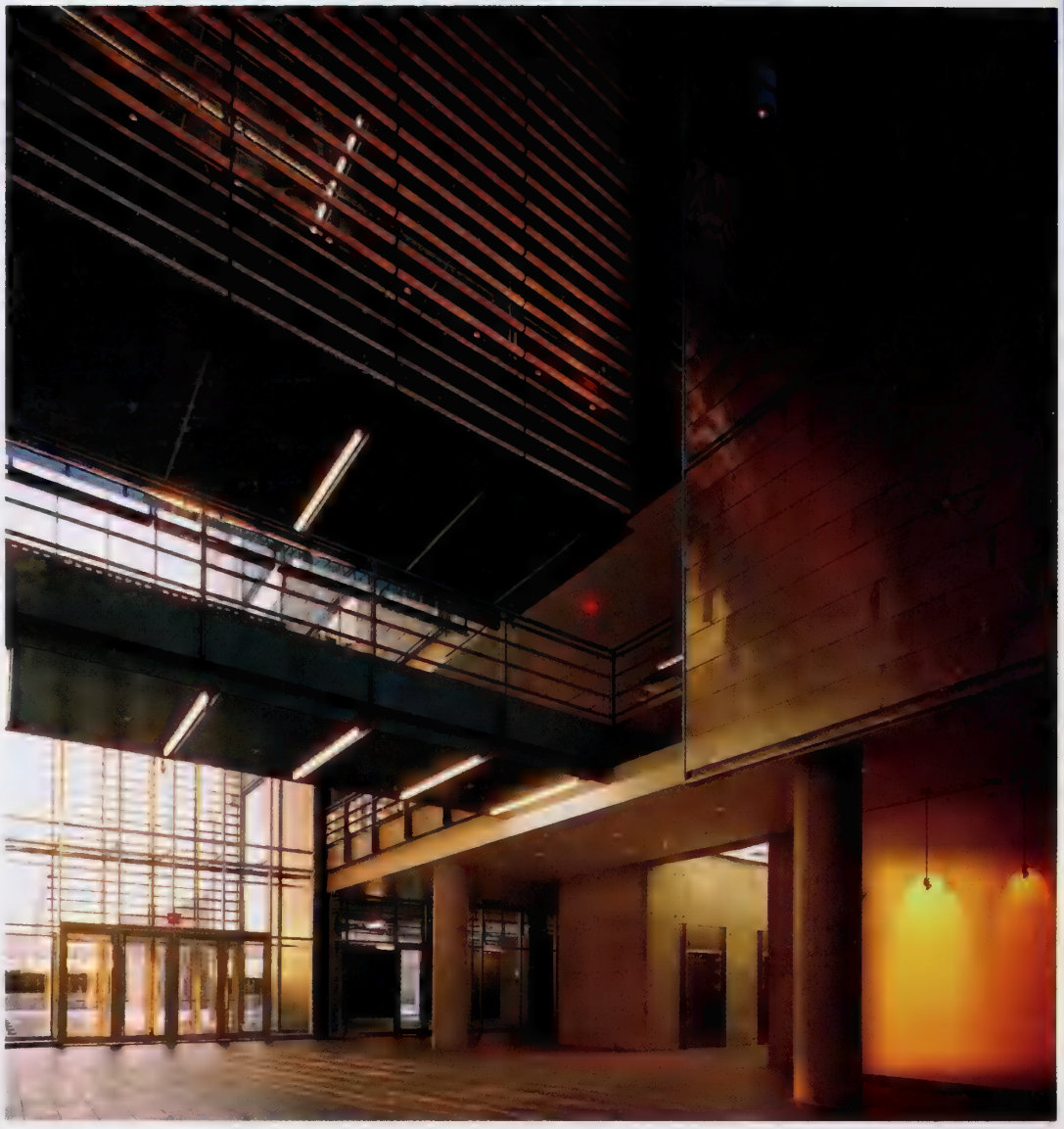
Because long north–south blocks dominate the Faubourg, Cité Multimédia buildings have been careful to introduce a secondary grid of east–west pedestrian lanes. With Phase Eight, the architects sliced back the north end of the shorter wing and the south end of the larger wing, echoing the diagonal of nearby Rue Wellington. Imposing, bladelike corners result, extending a semienclosed court across one street as well as beckoning strollers from a broad entry plaza across Rue Brennan at the edge of the canal. Into the gap between the street-hugging slabs, the design team inserted a five-story glass connecting atrium.

By breaking down the two volumes into relatively narrow, staggered slabs, the architects ensure no occupant is more than 33 feet from natural light as well as picturesque views of Montreal's skyline, canal, and harbor.

"It is a simple building, but with great attention to its plan and a few repeated details," explains project architect Anik Shooner.

Commentary

Phase Eight is a success, from its urban-savvy plan to such details as the iron oxide in the dark gray brick that responds to Montreal's unique winter morning sunlight by turning nuanced shades of yellow. The simple, unadorned massing elegantly complements the Faubourg's 19th-century stone warehouses. In making a transparent atrium and in the all-glass ground level, Dupuis and Le Tourneux have provided a counterpoint of lightness and openness that relieves the narrow streets lined by dark industrial buildings. The patterned-glass screen not only adds a little function-specific imagery, it succeeds in creating a memorable insignia of the Faubourg's new life. ■





A single service core in the larger structure economically serves both wings through open bridges spanning the transparent, public atrium space (above). Screens of Eastern white cedar soften the building's industrial palette (elevator lobby, left). At night, a slice of light glows from between the two wings.



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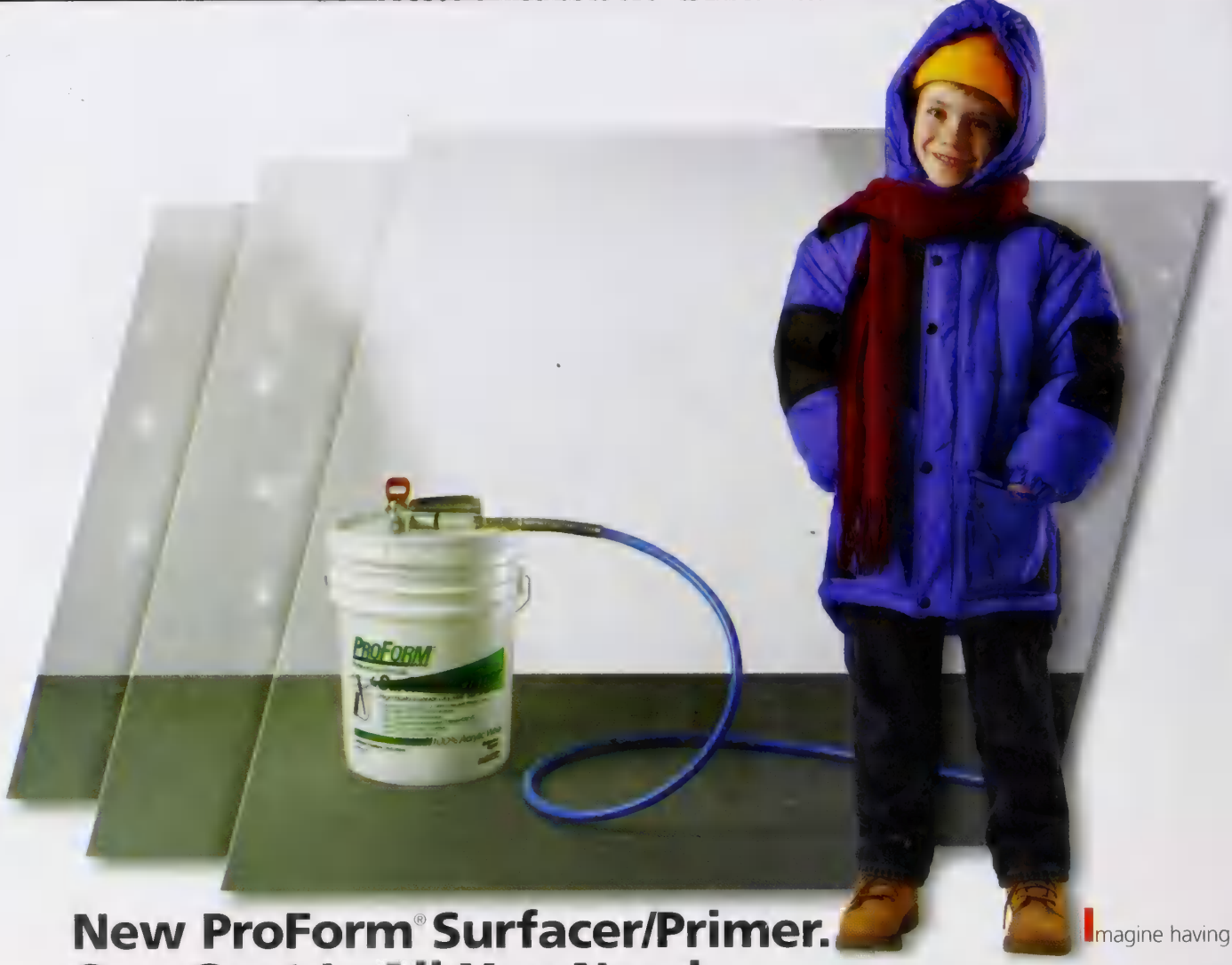
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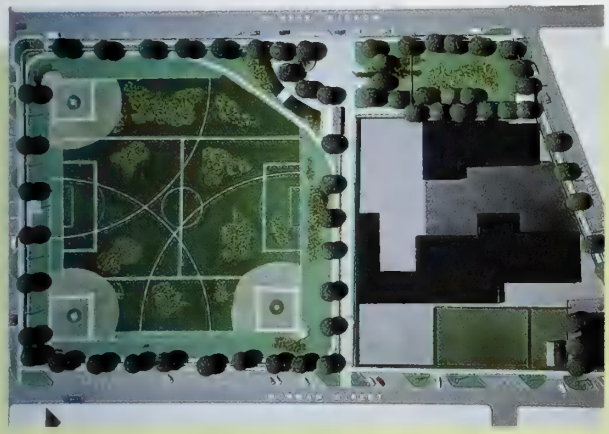
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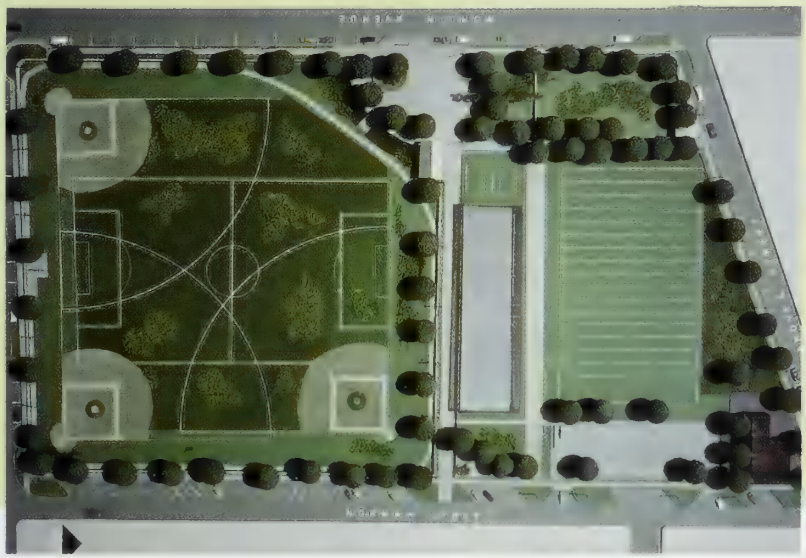
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BY GETTING ON BOARD AT SITE SELECTION AND REMEDIATION, ARCHITECTS CAN HELP DEVELOPERS ACHIEVE MORE SUSTAINABLE SOLUTIONS AT LOWER COSTS





Donald Watson, FAIA, facilitated community participation in the design of Went Field. The original park (above) was surrounded by brownfields. The new park (right) was enlarged after the contaminated land was cleared and cleaned up.

By Nancy B. Solomon, AIA

The times they are a-changin': Not too long ago, the word *brownfield* would send developers scampering away, not wanting to get involved in potentially contaminated sites. And architects would stay clear of the topic for the usual liability reasons. But today, more and more brownfields are being remediated and redeveloped, and architects are finding ways to contribute to this potentially complex endeavor. Says Daniel F. Hellmuth, AIA, of Hellmuth & Bicknese Architects in St. Louis, "We jump for joy when we find a brownfield that can be developed for a project."

The reasons for this shift are many. The environmental benefit of reusing already disturbed property instead of virgin land has been increasingly emphasized through the growing sustainable-design movement and the various "smart growth" initiatives across the country. The U.S. Green Building Council's LEED certification system, for example, gives points to a project situated on a former brownfield because it allows for rehabilitation of damaged land while reducing pressure on undeveloped property. State tax incentives and other financial assistance are also luring developers in. And improved technology and more streamlined remediation strategies have facilitated the actual process of sampling, analyzing, and cleaning up.

Brownfields reclamation gained increasing recognition on January 11, 2002, when President George W. Bush signed The Small Business Liability Relief and Brownfields Revitalization Act. The bill provides liability protection for prospective purchasers, contiguous property owners, and innocent landowners, and authorizes increased funding for state and local programs that assess and clean up brownfields.

Contributing editor Nancy B. Solomon, AIA, writes about computers, building technology, and practice topics of interest to the architectural profession.

Some basics

According to the U.S. Environmental Protection Agency, brownfield sites are "abandoned, idled, or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination." A brownfield, therefore, can range from a dilapidated but harmless property to a highly toxic Superfund site. The agency estimates that there are between 500,000 and one million brownfields in the United States.

For this story and more continuing education, as well as links to sources, white papers, and products, go to **architecturalrecord.com**.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 192 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *Explain the impact of recent legislation on brownfield development.*
2. *Discuss the process of developing brownfield sites.*
3. *Identify brownfield remediation techniques and practices.*

Because the degree and type of contamination ranges greatly on these lands—from none to severe—potential developers must consider each site individually, weighing its advantages and liabilities and the financial and technical assistance that may be available to bring it up to acceptable standards.

The first step in the brownfield process should be familiar to most architects: When a client or developer is considering buying any existing structure, it has become good business practice to hire an environmental engineer to test for lead and asbestos. An environmental assessment for a potential brownfield site is no different, except broader in scope. Says Tom Liebel, AIA, associate architect at Design Collective in Baltimore, "It's simply a matter of adding to the list of things to investigate and possibly abate."

ASTM has developed protocols for these assessments, which typically consist of two phases. In Phase I, an environmental consultant researches historic and current uses of the site through visual inspection, documents, and interviews. If such research indicates activities associated with possible toxic materials, the environmental consultant proceeds to phase 2—sampling soil, soil gas, groundwater, surface water, or sediment, depending on the results of phase 1—to determine the type and quantity of contaminants.

Next, a work plan is developed that outlines how the site will be cleaned up for the intended use in accordance with EPA's prescriptive standards plus any additional state requirements. An owner or potential owner could elect to undertake this cleanup himself or, if available, apply to the state's voluntary brownfield cleanup program. If the latter, the state would review the work plan and request changes as necessary. Once the work plan was accepted by the public agency, the developer would be eligible for various tax credits, grants, or loans—depending on the state program—to help with cleanup costs. In some cases, explains Kevin McGrew, St. Louis's federal brownfield coordinator, tax credits alone can cover the entire cost of remediation. Once the approved work plan is implemented, the state provides the developer with a letter certifying that the work has met its standards for cleanup. "It's a good piece of documentation in case you want to sell the property in the future," notes McGrew.

ONCE THE WORK PLAN WAS ACCEPTED BY THE PUBLIC AGENCY, THE DEVELOPER WOULD BE ELIGIBLE FOR VARIOUS TAX CREDITS, GRANTS, OR LOANS.

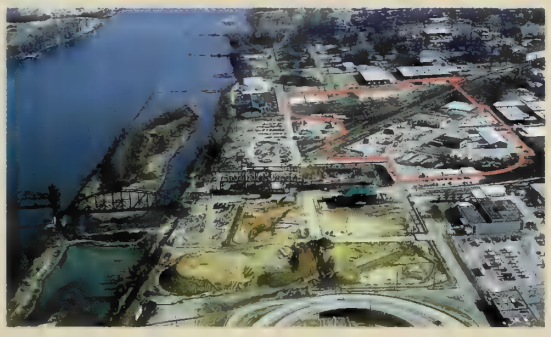
In addition, according to the 2002 brownfield legislation, if EPA has determined that the cleanup of a particular site can be monitored at the state level, the federal agency will relinquish power of enforcement for that site to the state unless deemed necessary due to an imminent danger. "That is a major change," observes attorney Baerbel Schiller of the law firm Spencer Fane Britt and Browne in Kansas City, Missouri. In the past, owners who had cleaned up a site according to the state's standards had little assurance that it was acceptable to

REMEDIES FOR TYPES OF CONTAMINANTS FOUND AT TYPICAL BROWNFIELDS SITES

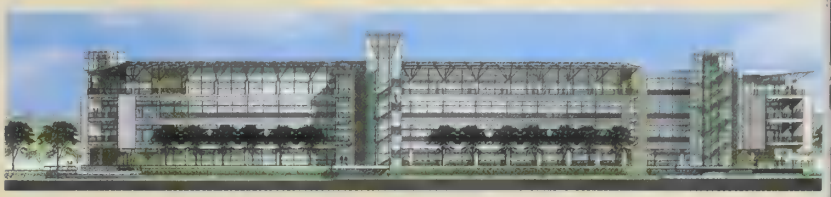
CONTAMINANT TYPE*	SOILS, SEDIMENTS, AND SLUDGES	GROUNDWATER, SURFACE WATER, AND LEACHATE
FUELS AND NON-HALOGENATED VOCS (GASOLINE, DIESEL, MOTOR OIL, BTEX, ACETONE, TPH, PAH)	BIOPILE; BIOVENTING; INCINERATION; NATURAL ATTENUATION; SOIL FLUSHING; SOIL VAPOR EXTRACTION (SVE); SOLIDIFICATION/STABILIZATION; SOIL WASHING; THERMAL DESORPTION	AIR SPARGING; BIOSLURPING; BIOSPARGING; BIOREACTORS; DUAL-PHASE EXTRACTION; PERMEABLE REACTIVE BARRIERS; PHYTOREMEDIATION; UV OXIDATION
HALOGENATED VOCS (PCE, TCE, VINYL CHLORIDE)	BIOVENTING, BIOREMEDIATION; SOLVENT EXTRACTION	AIR SPARGING DUAL-PHASE EXTRACTION; PERMEABLE REACTIVE BARRIERS; PUMP AND TREAT
NON-HALOGENATED SVOCS (CHRYSENE, NAPHTHALENE, PHENANTHRENE, PYRENE)	SOLVENT EXTRACTION; THERMAL DESORPTION; THERMALLY ENHANCED SVE	BIOREACTORS; BIOSLURPING PERMEABLE REACTIVE BARRIERS; SOIL/STEAM FLUSHING
HALOGENATED SVOCS (CHLORDANE, PCBS, PCP, DIOXINS, FURANS, PESTICIDES)	INCINERATION; THERMAL DESORPTION; THERMALLY ENHANCED SVE	BIOREACTORS; BIOSLURPING PERMEABLE REACTIVE BARRIERS
INORGANIC COMPOUNDS (ARSENIC, CADMIUM, CHROMIUM, MERCURY, LEAD)	CHEMICAL OXIDATION/REDUCTION; ELECTROKINETIC SEPARATION; SOIL FLUSHING; SOIL WASHING; SOLIDIFICATION/STABILIZATION; PHYTOREMEDIATION; SOLVENT EXTRACTION	PERMEABLE REACTIVE BARRIERS; PHYTOREMEDIATION; PUMP AND TREAT USING ION EXCHANGE FOR ADSORPTION
EXPLOSIVES (TNT, RDX, HMX)	BIOREMEDIATION; SOIL WASHING; SOLVENT EXTRACTION; THERMAL DESORPTION	BIOREACTOR PERMEABLE REACTIVE BARRIERS; PHYTOREMEDIATION
OXYGENATES (MTBE, ETHANOL, ETBE, TAME)	SVE; THERMAL DESORPTION; BIOREMEDIATION	PUMP AND TREAT USING GRANULAR ACTIVATED CARBON (GAC); AIR SPARGING; BIOREMEDIATION; CHEMICAL OXIDATION; DUAL-PHASE EXTRACTION

* The contaminants in parentheses are examples of each type of contaminant.





The Heifer's site (below left) was once bisected by a railroad switching yard (plan, left). This swath will form a buffer between the proposed headquarters (below) and outdoor exhibition space. A wetland (bottom) will be constructed around the office building.



CASE STUDY

Heifer International Center, Little Rock, Arkansas. Estimated date of completion: 2005

A nonprofit organization, Heifer International facilitates donations of farm animals to poor families in undeveloped countries to foster self-reliance. Consistent with its global mission of sustainability, it is building an environmentally sensitive headquarters on a 30-acre urban site that includes remnants of an abandoned trucking company and a railroad switching yard. The property is near the Clinton Presidential Library site and the Arkansas River.

According to Gerald Cound, Heifer's director of facilities, "This is a great location for us: near the river, the city, the library. Once we got into the site and understood its problems, we decided it would be part of the story we tell, so that we can encourage others to do the same elsewhere."

Heifer started its cleanup by removing underground diesel supply lines from the trucking area, in keeping with state regulations. Much of the excavated, diesel-contaminated soil, however, still sits on the site. They also began demolishing existing structures and crushing the concrete into gravel, to be reused on site as the base for a new parking lot.

Heifer hired Ecologic, an environmental consulting firm in Little Rock, to undertake an initial assessment of the property. In the subsurface soils of the switching yard, which bisects the property, they found a residual amount of polycyclic aromatic hydrocarbons (PAHs)—probably from the deterioration of railroad ties, which had been removed by a previous owner. In the southwest corner, around the site of the trucking company, they found a layer of asphalt about 3 feet below the surface. Here, they also found an inconsistent mixture of low-level contaminants—probably due to unclean fill delivered to the site to level the area.

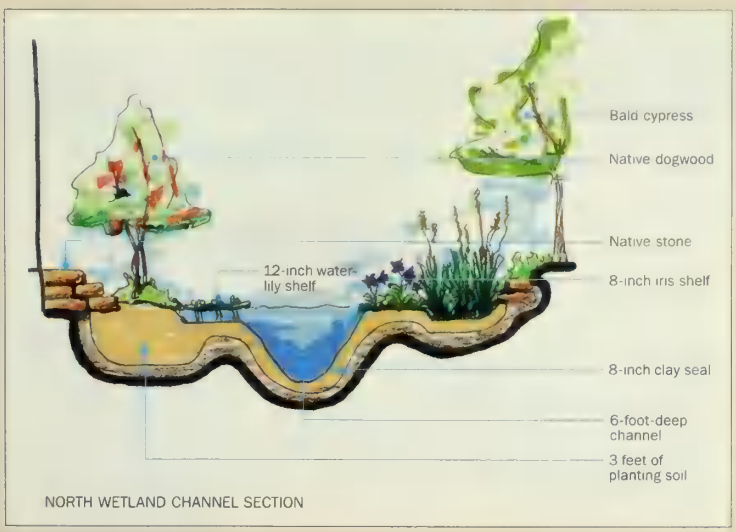
Anne Woker, president of Ecologic, recommended that Heifer conduct a more thorough site assessment and remediation plan only after design development was complete. "When you have the time, you should target the comprehensive site assessment to the planned use. Otherwise, you can waste a lot of money pin-cushioning the entire site," she says.

So the ball went into the architect's court: Polk Stanley Yeary Architects of Little Rock developed the master plan. The old rail yard became a logical buffer between a more formal, industrialized headquarters to the southwest and exterior exhibits of underdeveloped nations, to be designed by Cambridge Seven Associates in Cambridge, Massachusetts, on the northeast. Straddling the two worlds will be a visitor center. The old rail yard will include constructed wetlands to filter storm-water runoff—thereby cleaning the site of future pollutants—and provide habitat for native flora and fauna. The architects phased construction so that the headquarters could be built on what is thought to be relatively clean ground while the truck and rail yard sites are remediated. The visitor center will be built after remediation is complete.

Ecologic will now undertake a comprehensive site assessment, which Heifer will submit to the Arkansas Department of Environmental Quality (ADEQ). Following ADEQ's approval, Ecologic will provide the department with a property development plan, which will present the compatibility of Heifer's planned use of the site to its existing environmental conditions and will propose specific remedial actions if needed. Once ADEQ accepts this plan, remediation and construction may begin.

In all likelihood, predicts Woker, some of the shallow soils will be excavated and tested to determine their final destination. The diesel-contaminated soil already excavated may be landfarmed on-site—in other words, aerated so that volatile hydrocarbons will be released—before being disposed of off-site. The layer of asphalt and miscellaneous, low-level contaminants in the old trucking area will probably remain in situ, safely capped below several feet of clean fill and a new parking surface.

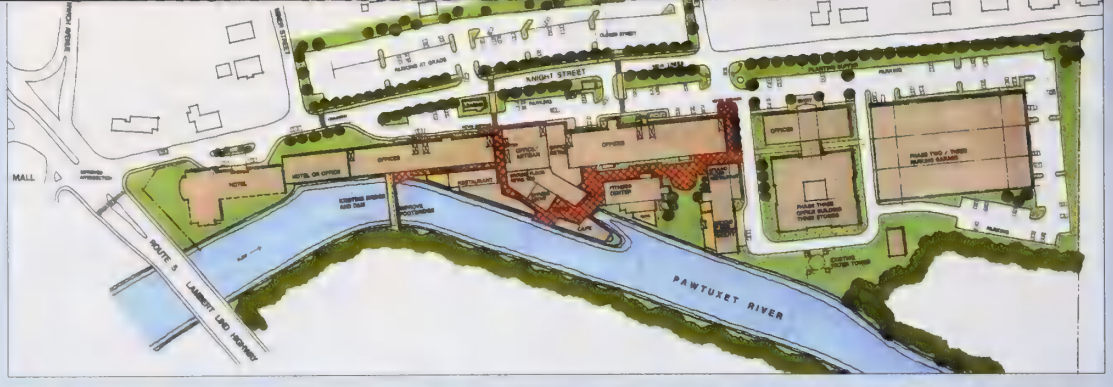
"It will be a risk-based assessment," notes Woker. "This process supports development in a way that is crucial for revitalizing downtown areas." *N.B.S.*



NORTH WETLAND CHANNEL SECTION

CASE STUDY

Historic Pontiac Mills, Warwick, Rhode Island. Estimated date of completion: not available





Historic Pontiac Mills (left), once home to Fruit of the Loom, is to be converted into multipurpose spaces (master plan, above).

The firm of D'Agostino Izzo Quirk Architects (D'AIQ), based in Somerville, Massachusetts, has taken a prominent role in addressing brownfield conditions at Historic Pontiac Mills, in Warwick, Rhode Island. The 350,000-square-foot site along the Pawtuxet River was home to the original Fruit of the Loom textile mill, dating back to the mid-1800s. Production stopped in the 1970s.

In 1986, a landfill east of the property was designated by EPA as a potential hazardous-waste site; a tiny portion of this landfill extended onto the Pontiac Mills site. In addition, fuel oil, arsenic, beryllium, and lead were found in other locations. The property owners at the time wanted to sell, but no lender would touch such a site unless it also received brownfield designation.

In 1996, D'AIQ began helping a developer interested in the property. Neither had prior experience with brownfields. "But we had experience with other types of consultants," says project architect John Giangregorio, a principal at D'AIQ. The architecture firm found an environmental engineer with whom they felt comfortable, and so began the complex process.

Although the first developer never exercised his option to buy, nor did a second developer for whom D'AIQ also worked, the firm gradually became attached to the site. Explains Giangregorio, "We had been developing good relationships with the town while shepherding the various master plans through the city development process." So when the third developer put an option on the property, they too hired D'AIQ and the team of technical consultants that they had cultivated over the years. This third developer, Hampton Hodges, bought the property in January 2003, soon after the brownfields settlement agreement was reached.

The architecture firm managed the whole project. "Environmental engineers take a narrower focus: If they can satisfy the state's department of environment, their job is done." The environmental engineer worked directly for the developer, so the architect had no liability for that part of the work. The civil engineer and landscape architect worked under the architect. All four professionals—with their varying expertise—looked at options together.

The most recent master plan calls for the conversion of existing structures into office, hotel, and retail spaces. New construction will include a portion of the hotel complex and a three-story office building. The project will be implemented in three phases, progressing from the west side, which requires minimal environmental remediation, to the more complicated cleanup on the east. In this way, the owner will begin to generate income from the development in one phase to undertake the more costly remediation in the next.

The design team negotiated with the Rhode Island Department of Development to cap the landfill portion of the site—which, as it turned out, only contained relatively nonhazardous automobile fluff and textile remnants—rather than excavate and remove it, and to build the parking in phases. Two layers of asphalt matching the footprint of the planned garage will be applied as an impermeable cap over the northern portion of the landfill in the first phase of construction. The southern portion will be covered by an impermeable membrane sheet and 18 inches of soil supporting low-growing vegetation. Piles, which will minimize disturbance of the contaminants and extend deep enough below the landfill to more stable ground, will be driven for the garage's foundation at the beginning of the second phase.

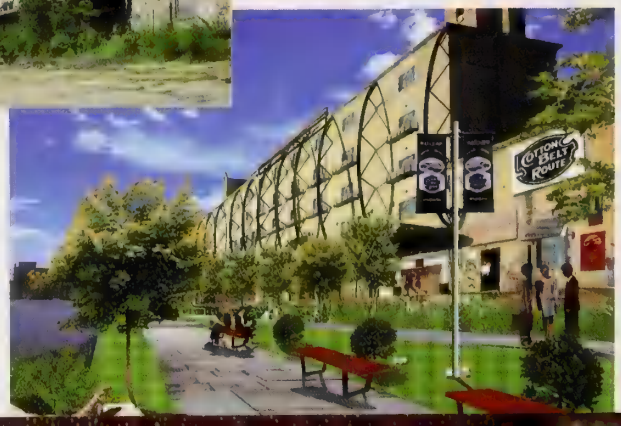
Giangregorio's advice: "Know the process. Some can be learned by having a good relationship with the regulatory agencies. And find an environmental engineer whom you can trust." *N.B.S.*

the federal government. Furthermore, the 2002 legislation relieves new owners of brownfield sites bought after January 1, 2002, of any liability for contamination created by others in the past as long as they comply with certain requirements prescribed in the law.

Greater efficiency

In recent years, the EPA has promoted a triad approach to site investigation to maximize efficiency and minimize costs. The three-pronged process consists of systematic planning, a dynamic work plan, and on-site analytical tools. Taken together, these approaches generate a more streamlined process that has reduced the costs associated with brownfield investigations. Explains Dan Powell of EPA's Brownfields Technology Support Center (www.clu-in.org/brownfieldstsc), "With the triad approach, you are continually adjusting





Plans for the Cottonbelt project in St. Louis call for conversion of the abandoned industrial riverfront site (left) into housing and commercial/retail space (below).

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CASE STUDY

Monarch Range
Beaver Dam, Wisconsin.
Completion of initial buildings: 1996

Architect and real estate developer Martin Sell, AIA, president of RKETEK.COM, a design-build firm in Juneau, Wisconsin, firmly believes architects should lead the way on brownfield projects. "The up-front work is facilitation, which is what architects do well, and the creativity architects bring to the process can open up the thinking in a room full of public officials and engineers."

Sell learned this firsthand—and prior to his founding RKETEK.COM—when working on a 14-acre property that had sat idle for years in the midst of Beaver Dam, a small rural community in Dodge County, Wisconsin. Beginning in 1896, the site had been home to Monarch Range Company, which manufactured kitchen appliances and, during World War II, munitions. In 1984, the company sold its assets to MAFCO, which soon declared bankruptcy and abandoned the property. In 1987, EPA cleaned up some of the toxins through its Superfund program. Dodge County gained ownership in 1988.

The remaining contamination, however, prevented the county from selling the property. According to Sell, the project lay dormant for several years, because no one was spearheading it.

In 1991, Sell approached Dodge County with a novel proposal: He would facilitate the cleanup and undertake site planning for the property in exchange for being able to buy a parcel at a time—once a client was found who wanted to build on a particular site—at its pre-cleanup price, to be determined by an independent appraisal. The county would be responsible for the actual cost of remediation, unless third-party funding could be found, and would indemnify the developer and future owners from liability. The county agreed.

Facilitation was no easy task, as the project had many participants. The key public stakeholders included the city, the county, four state agencies, and the Wisconsin and Southern Railroad Company. Private stakeholders included surrounding property owners, county and city taxpayers, environmental remediation firms, engineers, contractors, suppliers, and potential buyers and tenants. As facilitator, Sell had to make sure everyone was talking to—and understanding—each other. "We had to listen and learn, and teach the other players what was involved. What is the chemical, what does it mean?" recalls Sell.

Initial environmental testing indicated inconsistent contamination of the site. "There were four or five hot spots, but other places were clean," explains Sell. In developing the master plan, the architect considered the nature and location of contamination. For example, an area whose soil had to be excavated due to heavy-metal contamination was designated for surface parking.



1. *Retail/office*
2. *Rechek Food Store*
3. *Residential*
4. *Residential*
5. *Residential*
6. *Retail stores*
7. *Commercial*
8. *Commercial*
9. *Commercial*
10. *Dodge Central Credit Union*
11. *Residential*



Architect-developer Martin Sell facilitated the cleanup of the Monarch Range industrial site (above). He divided the property into parcels (plan) for development.

The environmental engineer discovered that 14 inches of fuel oil was floating on the water table serving Beaver Dam's drinking supply. This was removed immediately, and a system of underground piping was installed throughout the site so that clean water could be cycled through the soil.

Sell not only made a profit from the typical architectural and construction management fees, but also by the sale of land for significantly more than the purchase price. "We earned most of our money on this project by creating more value for the property," says Sell. And the community profited by eliminating the blight on their neighborhood.

"[Brownfields] is a market that architects aren't tapping, because they are messy projects that are not usually published. I'm most remembered for this brownfield because it cleaned up a virtual wasteland in this community." *N.B.S.*

your strategy in response to data you are finding in the field, rather than collecting a batch of data and waiting for results to come back before going back to collect more." This method also allows for a more efficient—and therefore more cost-effective—cleanup: By pinpointing the exact location of contamination, the remediation strategies can be targeted to those areas, rather than the entire site.

Over the years, EPA has fine-tuned its cleanup goals as well. At one time it was assumed that an entire site would have to be returned to a pristine condition. But now the agency encourages remediation to follow projected reuse. "Although it can be done, it's very expensive to clean up a site for 24/7 so that kids can eat the soil," explains Donald Watson, FAIA, of Trumbull, Connecticut, who provides facilitation and design services for brownfield redevelopment projects. Now the level of cleanup is related to the level of risk.

Technology options

There are a host of remediation techniques (see chart, page 186), depending on the type and location of the contaminant, among many other factors. In some cases the contaminant is physically removed from the site,

REMEDIATION STRATEGIES CAN BE TARGETED TO THE LOCATION OF CONTAMINATION, INSTEAD OF TO THE ENTIRE SITE.

in others it is treated on-site, and in yet others the pollutants are simply contained on-site so as not to spread. A listing of available technologies, an overview of the cleanup process, and many helpful resources can be found in *Road Map to Understanding Innovative Technology Options for Brownfields Investigation and Cleanup*, available free from the EPA.


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"One size doesn't fit all," explains Liebel. "One needs to custom craft a solution to each situation." It is, of course, the environmental consultant who takes the lead in this task, but the architect can weigh in on how the proposed remediation strategy may affect construction cost and schedule, future maintenance, and even community goodwill. And initial site planning can shape the remediation strategy.





Dating back to 1895 (left), buildings at Baltimore's American Can Company were adapted for the DAP Corporation in 1998 (below).

Architect's role

Site selection and remediation has never been a traditional architectural service. Most architects do not have the technical expertise—nor the liability insurance—to be responsible for the actual testing, analysis, or cleanup. But they do have the planning, facilitation, and management skills required to see the big picture and coordinate the many players. In exchange, as some of the following case studies attest, practitioners who do venture into brownfields can earn financial rewards while at the same time find tremendous satisfaction in knowing that they have helped revitalize communities at multiple levels. ■

MOST ARCHITECTS DO NOT HAVE THE EXPERTISE TO BE RESPONSIBLE FOR THE ACTUAL TESTING, ANALYSIS, OR CLEANUP.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Taking the Brown Out of Brownfields" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 254).**
- **Fill out and submit the AIA/CES education reporting form (page 254) or download the form at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. Brownfield land is being developed now because of which reason?
- **a.** architects no longer have the liability for cleanup
- **b.** tax incentives and financial assistance are luring developers
- **c.** the contamination has leached out of the soil
- **d.** it is the only land available

2. The Brownfields Revitalization Act of 2002 provides for all except which?
- **a.** liability protection for prospective purchasers
- **b.** increased funding for state and local programs that assess and clean up brownfields
- **c.** labor for cleaning up brownfields
- **d.** liability protection for adjacent property owners

3. Brownfield sites are defined as which?
- **a.** abandoned sites
- **b.** underused industrial sites
- **c.** sites with perceived environmental contamination
- **d.** all of the above

4. The steps in the brownfield cleanup process can include all except which?
- **a.** the architect researches the historic and current uses of the site
- **b.** hire an environmental engineer to test for contaminants
- **c.** develop a plan for the owner to clean up the site
- **d.** apply for tax credit, grants, or loans to help with clean-up costs

5. The triad approach to site investigation consists of all except which?
- **a.** continually adjusting your strategy in response to data collected
- **b.** collecting a batch of data and waiting for the results before collecting more
- **c.** targeting remediation strategies to contamination locations
- **d.** pinpointing exact location of contamination

6. What were the benefits of having the Pontiac Mills project managed by the architect?
- **a.** the architect had more experience with the regulatory agencies
- **b.** engineers take a narrower focus than architects
- **c.** the architect worked directly for the environmental engineer
- **d.** a and b only

7. Which is the first step in Heifer's plan to develop their headquarter site?
- **a.** begin remediation and construction
- **b.** undertake a comprehensive site assessment
- **c.** submit the site assessment to the ADEQ
- **d.** design development

8. The Monarch Range site lay dormant for several years for which reason?
- **a.** the county was spearheading the project
- **b.** no one was spearheading the project
- **c.** there were too many participants
- **d.** the Wisconsin and Southern Railroad was the major stakeholder

9. A system of underground piping was installed throughout the Monarch Range site for what reason?
- **a.** to provide drinking water
- **b.** to provide landscape irrigation
- **c.** to remove any remaining petroleum
- **d.** to keep the site from settling

10. What was the benefit of having Heifer do their site assessment after design development was complete?
- **a.** to provide a more thorough site assessment
- **b.** to save time and money
- **c.** to start work sooner
- **d.** to delay the start of work

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Mold growth requires moisture, oxygen and an organic food source such as found in paper and wood building materials. Concrete masonry, however, is not a food source for mold. That's just one of the many advantages of using concrete masonry in construction projects of all types.

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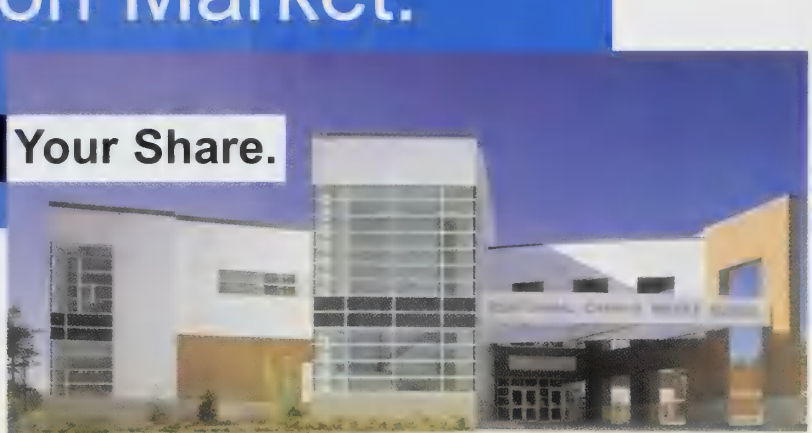
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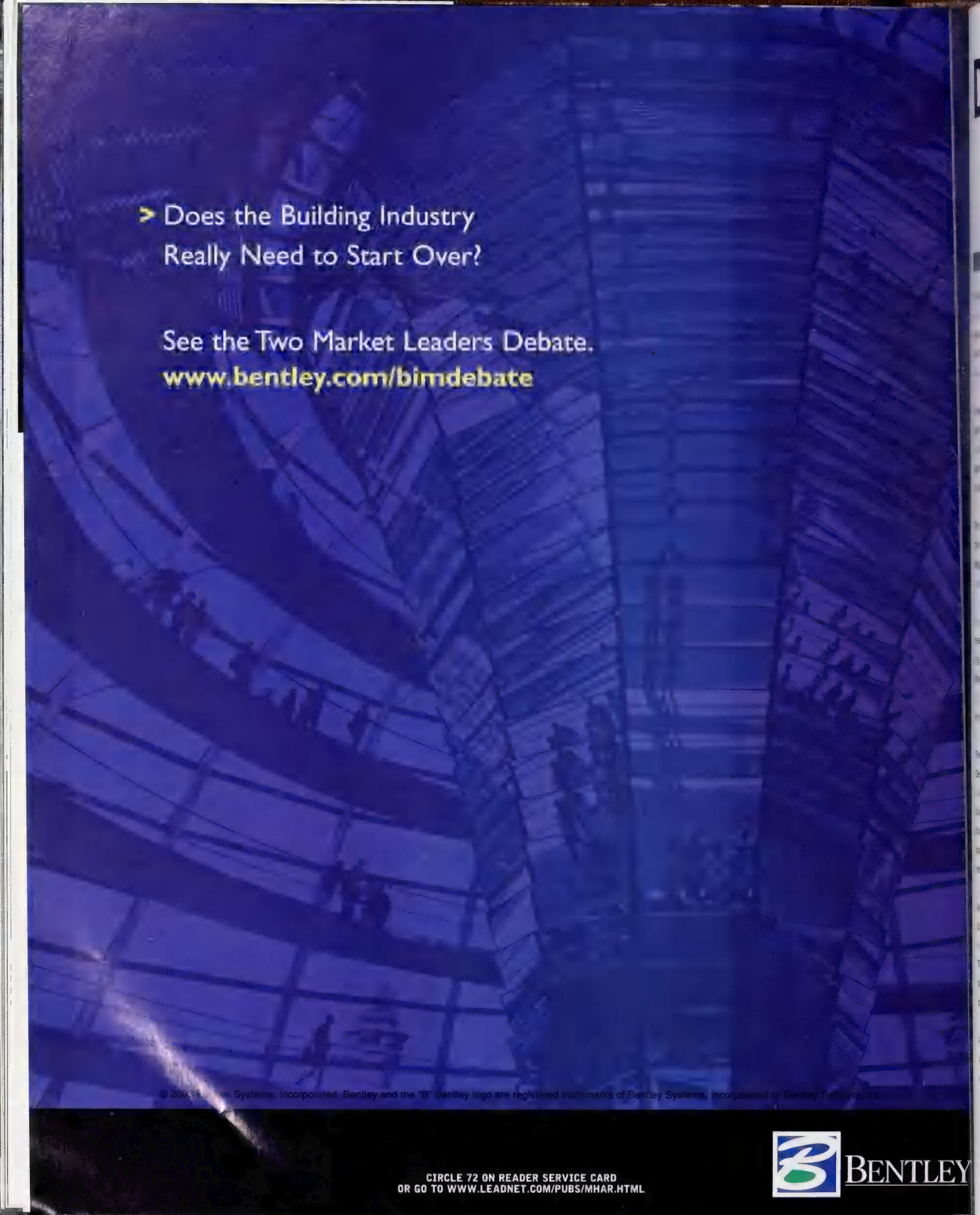
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BENTLEY

Digital Practice

IN THIS SECTION: Johnson Controls teams with Microsoft to build a better building system; MIT concocts ideas for a digital neighborhood in Asia [this page] ▪ A shopping center in Las Vegas raises the bar for multimedia technology in a public space [page 193] ▪ Digital Architect: A Boulder architect says technology changed his practice for the better [page 201]. *Deborah Snoonian, P.E.*

BYTES

The AIA has compiled electronic copies of component best practices on their Web site. To access these resources, visit the members-only area at www.aia.org.

A new Web site, FreeCAD.com, allows users to download hundreds of CAD applications free of charge. Each software package is usable for 180 days or longer.

The Art Institute Online, a division of the Art Institute of Pittsburgh, has begun offering an online bachelor degree program in interior design.

AutoCAD for OS-X? Autodesk is researching the possibility of developing its leading design software for the Macintosh platform. Provide feedback to the AutoCAD product manager at eric.stover@autodesk.com.

The American Society of Interior Designers has created an online information center for sustainable design. Visitors to www.asid.org/green.asp will find green design guidelines, message boards, a glossary, and other resources.

Architecture students at Ball State University recently designed a digitally enhanced newsroom for the campus. The project, whose construction is also being overseen by students, will be completed by fall 2003.

At the University of Illinois, research by architecture professor George Elvin concluded that using tablet PCs and wearable computers to design and construct buildings reduced rework time, compared to employing desktop PCs and paper documents.

HVAC maker uses Microsoft tools to streamline building operation

Johnson Controls, a leading manufacturer of HVAC and other building systems, announced that its equipment is now operable from standard PCs equipped with Microsoft's Internet Explorer, rather than the expensive custom-built workstations that have been standard for years.

Johnson's Metasys building automation system (BAS), the digital language used by controllers on systems like HVAC, life safety, and security, now relies on Microsoft's .NET technology. Users can log on to a Web site from a PC, and for any building (or group of buildings) view and use operation data such as electricity usage, indoor temperatures, and humidity levels. Typically, this information was only accessible through dedicated, proprietary workstations with complex data entry and retrieval methods.

A simple, well-understood interface for building operation has long been a goal for the controls industry. Because the Web is a common data-exchange platform for existing applications for accounting, human resources, and scheduling, Johnson Controls expects this innovation will give rise to new products and services for facility owners and managers. "Johnson Controls recognized that taking this approach would give us the best tool to manage the interaction between an organization's systems, which in turn provides a tremendous competitive advantage for our customers," said Brian Stark, president of the controls group.

The improvement may also allow nontraditional facility managers—like architects—to use operation data for new purposes in building planning and design. "We don't know yet how owners or others in the AEC industry will use the data that are accessible now," said Brady Nations, manager of business development for Johnson Controls. "But we look forward to finding out." *Deborah Snoonian, P.E.*

With MIT's help, Seoul plans an always-on street life



Pedestrian areas of Seoul will connect visitors to the world—and each other.

Seoul, South Korea, one of the world's most digitally connected cities and a fierce competitor with other Asian metropolises for high-tech businesses, is intent on making its mark as a digital hub. It has enlisted technology and urban planning experts from MIT and other U.S. schools to develop The Digital Media City (DMC), an entertainment and digital media center located in a rare undeveloped 1,600-acre section of the city's Sangam district, slated for completion in 2010. Planners hope the DMC will lure companies and become a hip, tech-savvy destination.

The plans for the DMC include ultra-high-speed communications networks on the ground and wireless Internet access throughout the Digital Media Street, the area's main thoroughfare. Curving through the center of the DMC, the street is a concrete-and-asphalt symbol of the project's aspirations. Like most of the DMC, it will be a proving ground for new technology, equipped with cutting-edge electronics designed "to draw people into spontaneous activity," describes project consultant Michael Joroff, a senior lecturer at MIT's department of urban studies and planning. Adds consultant Anthony Townsend, a research scientist with the Taub Urban Research Center at NYU, "We want to know: What can we do here that has never been done before?" The Korean firm Archiplan and Dennis Frenchman, head of the city design and development program in MIT's department of urban studies and planning, are also advising on the project.

Ideas for the street are flourishing. They include wireless network kiosks that would enable Internet access; the "Sister Wall," a composite video wall to display real-time Web camera feeds from Seoul's sister cities around the world; an "Urban Odometer," a display of giant bar graphs—much like

Digital Practice



Planners want technology-rich neighborhoods to lure businesses to Seoul.

the output meter on a stereo amplifier—that registers the amount of data flowing into and out of the DMC at any given moment; and a "location-aware" information delivery system, which will enable pedestrians with handheld organizers and mobile phones to receive information such as movie listings and retail coupons that are relevant to their physical location. The idea even extends to the transportation network, where small electric-powered "EtherBeetles" equipped with voice recognition software would respond to passengers' requests.

Joroff stresses that the street, like the entire DMC, should be spontaneous and flexible to change. "We're no smarter than [other] people out there. Our ideas are not necessarily the right ideas," he says, adding that he is recommending that Seoul establish a quasi-public organization to control the street's technologies and content and to ensure that enough design ideas are generated from the bottom up.

Like other cities that have created technology zones—Shanghai, Helsinki, Singapore—Seoul is banking on these ideas to generate cash. The DMC is expected to create about 270,000 jobs, while construction investment and industrial activities will induce an estimated $13 billion in spending. The DMC, Joroff says, hopes to differentiate itself from other technology hubs by creating a pedestrian-friendly environment that will cater to technology companies and the people who like to work at and live near them. Townsend says, "Companies in digital media thrive on being located in exciting urban areas. Most don't see a digital media hub as a Silicon Valley-type place. They've envisioned it as a more Manhattan-style place: creative, hip, interactive." And walkable.

The consultants admit that plugging the concept of an active street life in this neighborhood took some work. Said MIT's Frenchman, "In Korea, they wanted six lanes of traffic, and we had to convince them there would be no place to go if it was all oriented to the car." He is also encouraged by technologies that allow people to become familiar with both their immediate surroundings and those of other areas, as the Sister Wall does. "I think it's a very healthy direction for cities," he says. "People think of technology as cold and sleek, but in this case, it's going to encourage a more intimate environment."

Sam Lubell

ARCHITECTURAL RECORD CALL FOR ENTRIE

Record Houses 2004

The editors of ARCHITECTURAL RECORD announce the 49th annual RECORD HOUSES awards program. This program is open to any registered architect. Of particular interest are projects that incorporate innovative programs, building technology, and use of materials. The entry fee is $50 per submission; please make checks payable to ARCHITECTURAL RECORD. Submissions must also include plan(s), photographs (transparencies, slides, or prints), this entry form, and a brief project description, bound firmly in an 8 ½-by-11-inch folder—postmarked no later than October 30, 2003. Anonymity is not necessary. Winning entries will be featured in the 2004 RECORD HOUSES. Other submissions will be returned or scheduled for a future issue. Please include a self-addressed envelope with the appropriate postage, and allow 10 weeks for return.

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Signs of Life: A New Lesson from Las Vegas

A SOUPED-UP SHOPPING CENTER ON THE STRIP USES TECHNOLOGY TO ANNOUNCE ITSELF AS A RETAIL, CULTURAL, AND CIVIC DESTINATION. MEDIATED ARCHITECTURE CAN FINALLY MAKE A PUBLIC PLACE.

By Gregory Beck, AIA

Many of us have come to realize, sometimes begrudgingly, that the quirky, irreverent landscape of Las Vegas can be a spectacular laboratory of design ideas. Behind the fantasy, however, the architecture of Las Vegas is a blood sport. Environments here must produce results at an unforgiving pace, then change, and change again—or be imploded for the next new thing. Here buildings may be signs, or may not need signs, but most importantly, they are understood to be temporary expressions of a temporal society. It's a town built by pop-culture Medicis, writing checks to fuel adventures in environments. Where else could the Rat Pack, Rem Koolhaas, and a Sphinx coexist?

But this oasis of iconography has yet to show us its version of a civic place, a setting where its residents and 36 million annual visitors might choose to congregate. What could happen if we mixed architecture and new media technologies with this spirit of consumption, and rolled the dice down Las Vegas Boulevard?

In the city with a tradition of recasting itself for each new generation, the newest game in town may be the third-oldest profession: shopping. Las Vegas is home to one of the most profitable retail environments in the world, the oft-imitated Forum Shops at Caesar's Palace. So when developer The Rouse Company acquired the aging Fashion Show Mall on the Strip in 1997, its charge was nothing less than to define a first-of-its-kind public space, crafted around new media concepts in a city that literally breathes the new.

Gregory Beck, AIA, practices architecture in New York City and is codirector of the Urban Narratives Design Research Group at MIT.

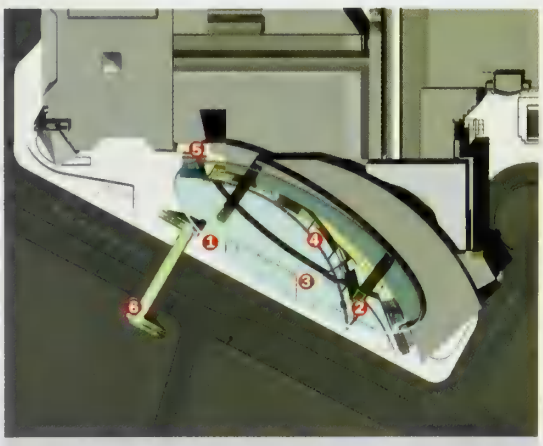
Retail developer as show producer

Known for its urban marketplaces and place-based retail design, Rouse creates in each project a reflection of its vernacular setting. Ironically, the company had to reverse this rule for Las Vegas, a city constructed entirely of fictional narratives, what we've come to call "themed" environments. The new Fashion Show would have to find a new way to be cool.

To this end, the developer opted to incorporate media technologies as well as drop the name "mall" from the project. "We saw an electronic platform of media as a way to activate and renew [the retail] environment," says Laurin B. "Monk" Askew, Jr., FAIA, the longtime director of design for Rouse before retiring in 1998 (he now leads his own practice, MONK LLC, in Baltimore). Askew believed the project could be developed as both concept and destination, a place that integrates the marketing of fashion (and being fashionable) into all aspects of contemporary life, from food and apparel to music and entertainment [RECORD, October 1999, page 160].

The project evolved into a fusion of innovative retailing, contemporary environments, and communication systems capable of





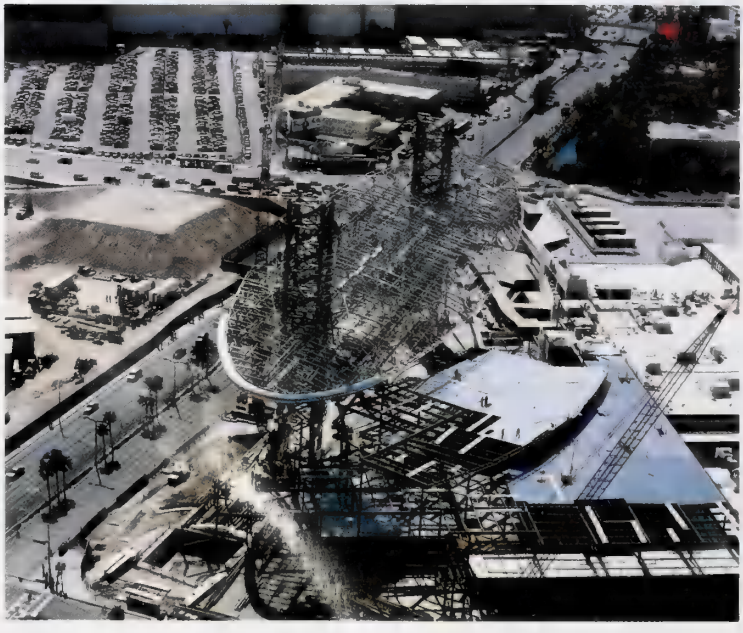
1. *The Cloud*
2. *Cloud column*
3. *Plaza*
4. *Media curve wall*
5. *Runway*
6. *Pedestrian bridge*

The Cloud defines a new entryway for the Fashion Show (above), articulating the outdoor plaza area while also shielding pedestrians from the merciless desert sun (left).





The Cloud, rising up along the infamous Las Vegas Strip (this page), will officially begin "broadcasting" this fall. Its sleek lines stand in contrast to neighboring structures, but it is already becoming an icon in its own right.



telegraphing the fast-changing nature of style, from the catwalks of Paris to the innovations at the Tokyo Auto Show to the latest New York City gallery openings. Eight new anchor stores were added to create 2 million square feet of retail space under one roof. An initial phase opened last year; the plaza and its media components are slated to open in October.

The place is the medium

The front door of a typical Las Vegas project would feature a supersize themed icon—part architectural fantasy, part sign, and part performance event. But the Fashion Show is anything but typical: Its 57,000-square-foot, crescent-shaped plaza, with its crisp, modern aesthetics, stands as a counterpoint to the high-octane character of its surroundings. And its media technologies give the Boulevard its first taste of a civic space.

The "Cloud" is Fashion Show's icon, a 500-foot-long, wing-shaped structure wrapped in a bright aluminum skin (construction

THE USE OF NEW MEDIA AT FASHION SHOW RESCUES IT FROM THE CONFINES OF A TRADITIONAL RETAIL SETTING.

photos, this page). Suspended 150 feet above the street, it will be a sunshade by day and a skylike canopy of projected images by evening: think cloud patterns, stargazing, and possibly midnight screenings of *Ben-Hur*.

Myriad messaging systems are integrated into the plaza area. Five full-color projectors, housed in glass cubes, are each capable of projecting a 70-foot-square image on the underside of the Cloud. Facing the Plaza and Boulevard, four 24-foot-by-43-foot LED monitors will move continuously along an elevated steel track called the "Media Curve." Like the images on the Cloud, these displays can be viewed individually or combined to form a stunning 172-foot-wide digital canvas. Together with



The shopping center's interior is enlivened by huge displays capable of broadcasting events and content from within, around, and well beyond Las Vegas.

sound and lighting, these systems will create the "media space" that defines the Fashion Show experience.

"We want to be the anti-theme in Las Vegas, using media to create a sense of participation in the 'now,' " says Richard Orne, AIA, the architect responsible for orchestrating this retail hybrid. Working in conjunction with Rouse's Askew and Los Angeles architects Altoon + Porter, Orne's firm tackled the challenge of integrating theatrical media systems into traditional building standards.

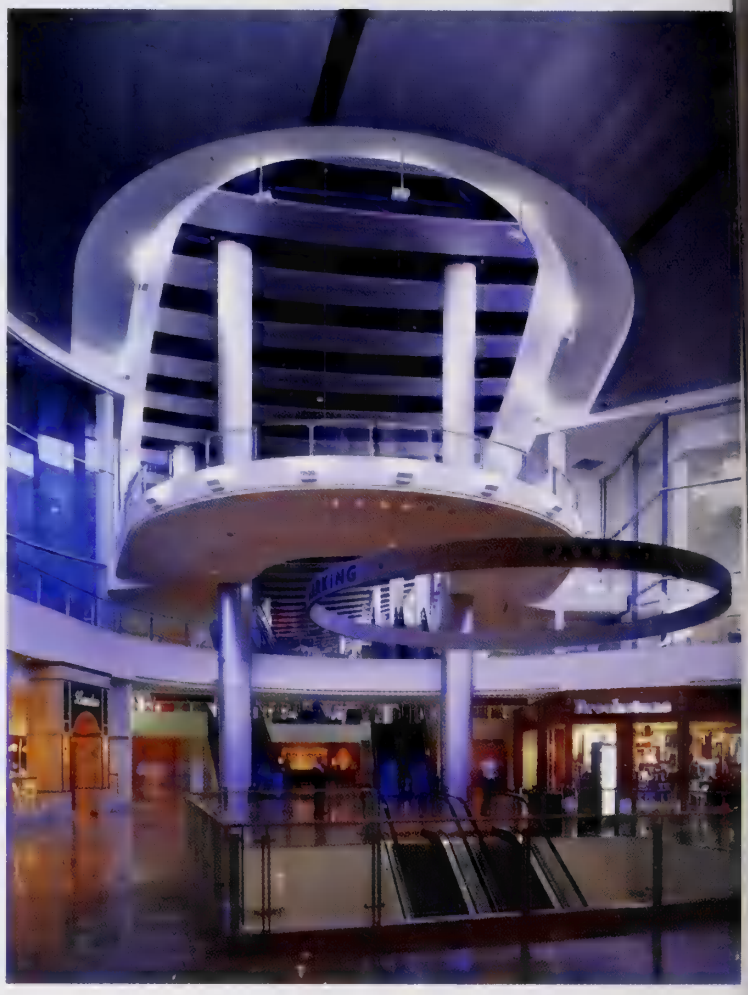
Orne pushed for a dynamic interplay between media and physical space, underscoring for the developer the financial benefits of this arrangement. "The expense of these technologies makes it impossible to justify them simply as visual excitement," he says. "You must position them as integrated content that helps the environment tell its story." What emerges is a revenue-generating opportunity, with the Fashion Show's tenants and outside sponsors purchasing time on the display network.

"There is a significant difference between entertainment venues with stagnant, packaged content, and places that inspire events and create memories," adds Ronald A. Altoon, FAIA, partner for design at Altoon + Porter. "At Fashion Show, the building itself is transformed, continually redefining space and the manner in which it is used."

Sophisticated software developed by the New York interactive media firm R/GA (interview below) powers the plaza's media systems. Honed first for film and television, these tools allow savvy slicing and dicing of images and video, bringing a new intelligence to the information displayed. For example, live content from inside Fashion Show will be combined with television feeds, Internet data, and preproduced videos to engage the thousands who pass under the Cloud every day; the developer is betting these will lure shoppers inside to spend their hard-won dollars.

Every shopping center needs a runway

Inside the Fashion Show one would expect nothing less than a fashion show. Centered in the Great Hall is an 80-foot-long runway, which lies flush when not in use but rises from the floor (along with a 28-foot-square glass stage house) for shows, promotional events, and other spectacles. Gear for the shows is loaded into the stage house from the basement, unseen for these events, and three high-resolution LED dis-



Behind the scenes, audiovisual "producers" vary lighting, music, displays, and other interior elements to entertain and educate visitors at the Fashion Show—visitors the developers hope will shop till they drop.

Robert Greenberg, R/GA's visionary founder, sees new media transforming architecture

Academy Award–winning designer Robert Greenberg's work crosses over the worlds of film, advertising, information design, and Internet media. His New York–based firm R/GA takes these ideas from the screen into public spaces, creating new techniques for integrating media content with architecture. R/GA developed the software that powers the Reuters sign at 3 Times Square, and designed the moving "Media Curve" display at Fashion Show.

GREGORY BECK: *Architecture has been slow to embrace new media technologies—what role can they play in enhancing buildings?*

ROBERT GREENBERG: Technologies like databases, satellite, cable, and wireless can enable media in the form of data, text, video, music, environmental sound, and the Internet to be seamlessly integrated into buildings of the future. They make it possible to incorporate information and entertainment into spaces in an entirely new way. A great example is the automobile—it's essentially a moving network, incorporating media and communications into its structure.

GB: *How will wireless networks change the way we use buildings?*

RG: We're just beginning to move from the "home theater" phase to understand how technologies like Wi-Fi will remake the city. Wireless information breaks down the "architecture" that has defined how we interact—now "work," for example, is taking place in every place. More than ever, we'll need environments that support a high quality of social interaction, surrounded by a sphere of information, not simply rooms devoted to functions.

GB: *How can architects be more effective in leading teams on media-intensive projects?*

RG: Architects hold on tightly to creative control, but a project like Fashion Show has content being generated by many people. I see a great similarity between moviemaking and the building design process. Hollywood has a tradition of collaboration not seen since the Renaissance—films simply could not be made without a great number of people working together. Media environments require a higher degree of team integration, and architects may better position themselves as "producers" in order to be successful. Producers manage creative, technical, and financial interests, while keeping everyone focused on the big idea.



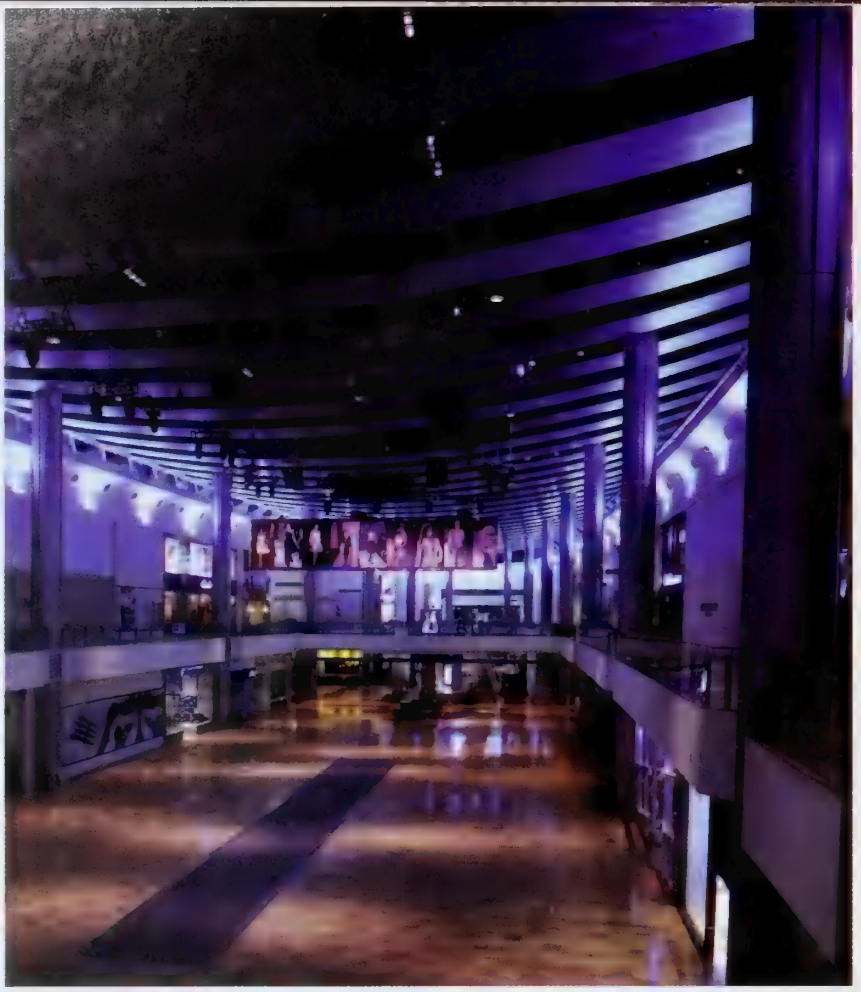
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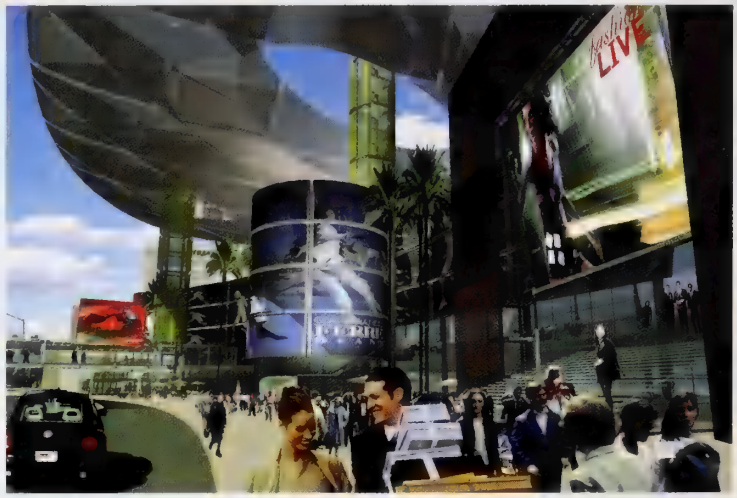


The runway is unobtrusive when not in use (left), but it rises up to create a stage for shows and exhibitions. Most spectacle in Las Vegas is designed to lure gamblers inside, but this outdoor plaza (above and below), enriched by style-conscious content from local and far-flung sources, is expected to draw visitors for many different purposes.

plays and theatrical lighting descend from the ceiling. If you're on the plaza when the show starts, never fear—you can catch the simulcast outside. Savvy retailers may well jockey for adjacency to this feature: With a short walk from runway to front door, every customer can be a model for a day.

Overlooking the Great Hall is a space never before programmed into a shopping mall—a staffed audiovisual control center. From here, a "retail DJ" can adjust the emotional temperature of the environment, linking it to a world of ideas and events. Its sweep of monitors and hard drives reveals a new set of retail design values: the shopping environment as equal parts broadcast center, event space, and brand performance arena.

OUTDOORS AND IN, FASHION SHOW'S VISITORS ARE DRAWN INTO A WORLD OF STYLE AND STYLISHNESS.



Duck or shed—or video projector?

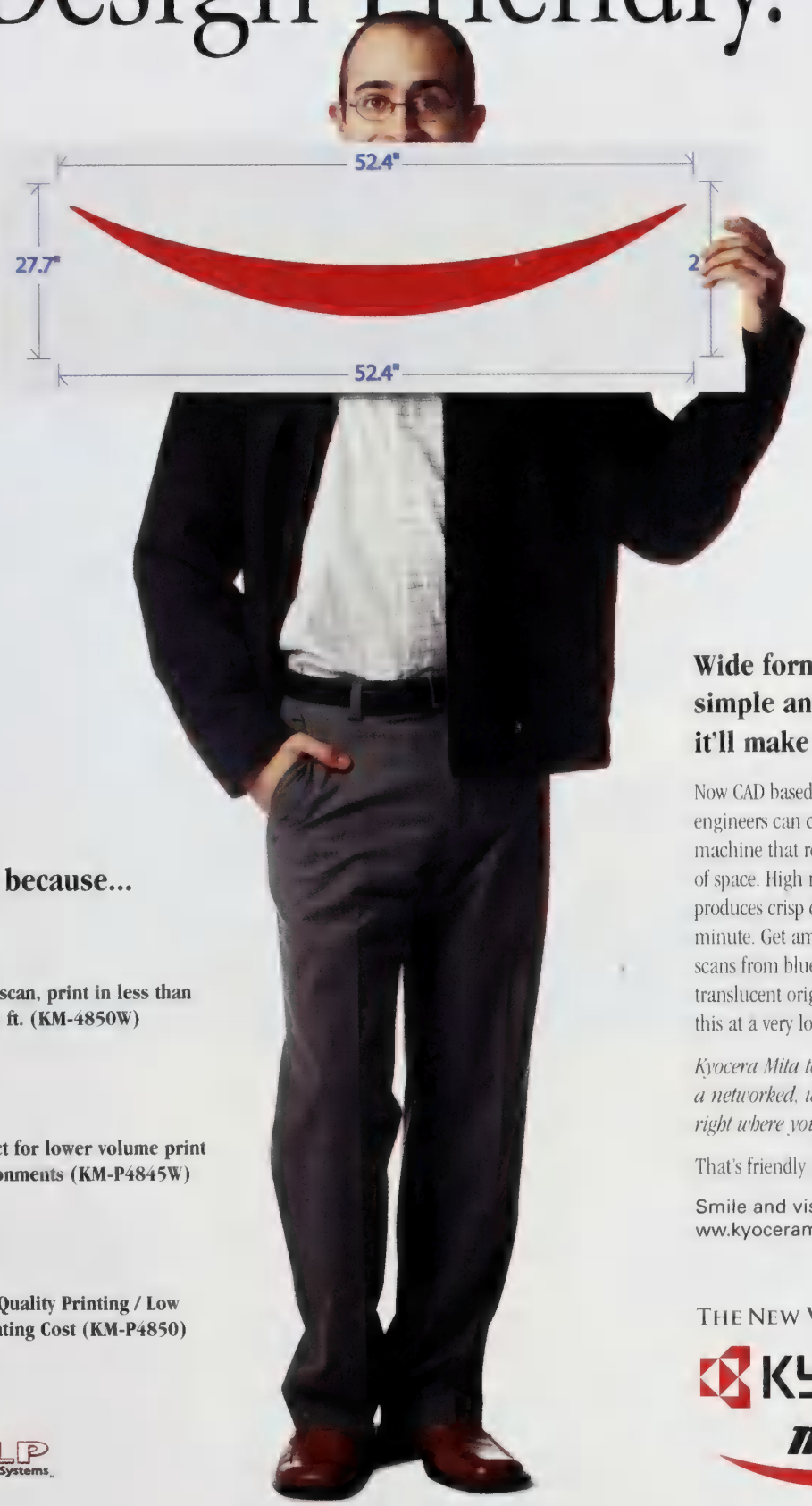
At Fashion Show we see building surfaces turned into media content, and communications displays transformed into architectural expressions. The integration of media adds value here because it is neither used as an appliance nor viewed as a piece of hardware. We are reminded that mediated places, like good architecture, cannot be specified from *Sweets*. Its design values—effective communication, environmental richness, ultimately the "guest experience"—are alive and well here. Here, in Las Vegas, just across the street from the live ship battles of Treasure Island and down the Boulevard from a pseudovolcano programmed to erupt 11 times a day.

What insights can we gain from this experiment? The first lesson is that mediated places dissolve boundaries—the traditional ones between public and private, inside and outside, even the celebrated metaphors of duck and shed. The tension between architectural form and content, while perhaps not completely dissipated, is eased.

Second, the concept of media as environmental storyteller encourages the development of places that are at once entertaining, educational, and cultural, thus confounding and then liberating preconceptions about building types and human nature. Multitasking, multifunctional spaces make mixed-use look so yesterday. Designers of public spaces can now harness the power of technology as a tool for the effective integration of traditionally separate uses in a single setting.

Finally, digital media offers another way for environments to speak, in literal and nonverbal terms. When things start to think, and bricks learn to communicate, places will at last have a voice. ■

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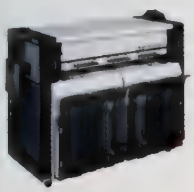
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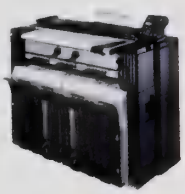
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Digital Architect

Interview: A Visit with Richard Epstein

By Deborah Snoonian, P.E.

Richard Epstein, AIA, has had his own firm in Boulder, Colorado, since 1992 and has designed a variety of commercial, residential, and mixed-use projects. Public art and sustainability have been the mainstays of his practice. For more than 20 years he has collaborated with the renowned artist Michael Singer, whom he met as an architecture student at MIT. Together they designed the Phoenix Recycling Center as well as numerous projects at the Denver International Airport.

ARCHITECTURAL RECORD: *What kinds of digital tools are integral to your firm's practice?*

RICHARD EPSTEIN: We're a PC office, and for design we use primarily AutoCAD and Form-Z. We do a lot of Form-Z modeling of every project—we often begin with that, and then we use AutoCAD to generate production drawings.

AR: *Have you explored other 3D design programs?*

RE: We've explored to some degree the idea of parametric modeling, using some of the software packages that are available right now. But at this point, I've determined that between the amount of computer horsepower needed to keep a model updated and the time it takes, especially with multiple people working on a project, it's not as efficient as allowing different people to work on portions of a project at the same time. The models ended up getting in the way, we found. I can imagine that on a very complex building it might be the only way you can get fast results, but I'm still unconvinced of the value of parametric modeling.

AR: *What are your major hardware needs?*

RE: We don't buy computers premade from Dell or Gateway or any of those companies. We always need better graphics cards and other features like that, and we find the machines are much more affordable and functional if we piece them together ourselves. We have a part-time guy, Ferdinand Schmidt, who's an IT manager for Architectural Energy Corporation, a large firm nearby. He builds the computers for us and provides technical support for them, as well as our printers and other hardware.

AR: *How has technology affected the way you practice architecture?*

RE: Technology has become a great equalizer. Even though we're a small firm—just four people—we're able to compete with larger firms and be efficient in our practice because of the level of technological proficiency we've achieved. I think the quality of our modeling work is as good as most firms in our area, if not better. So we can offer those benefits to our clients, as well as the advantages of working with a smaller firm.



We've seen more and more benefits in doing 3D modeling in the early stages of a project to explore design options like material and color with our clients. In some cases this work has helped us convince clients of the value of our ideas in a way that wouldn't have been possible before. For instance, the renderings for a project that's under construction right now, a renovation of an existing building [see images below], sold the developer on a more radical design concept than he'd originally been comfortable with.

We use the Internet extensively to search product catalogs. Looking up specific manufacturers and products online saves us a lot of time. Many companies also provide dimension information for their products on their Web sites, along with CAD details you can download.

I'm also acting as a developer for a mixed-use project in Longmont, Colorado, and being able to use the Internet to research material costs has been crucial to doing this in conjunction with my practice. ■

www For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at **architecturalrecord.com**.



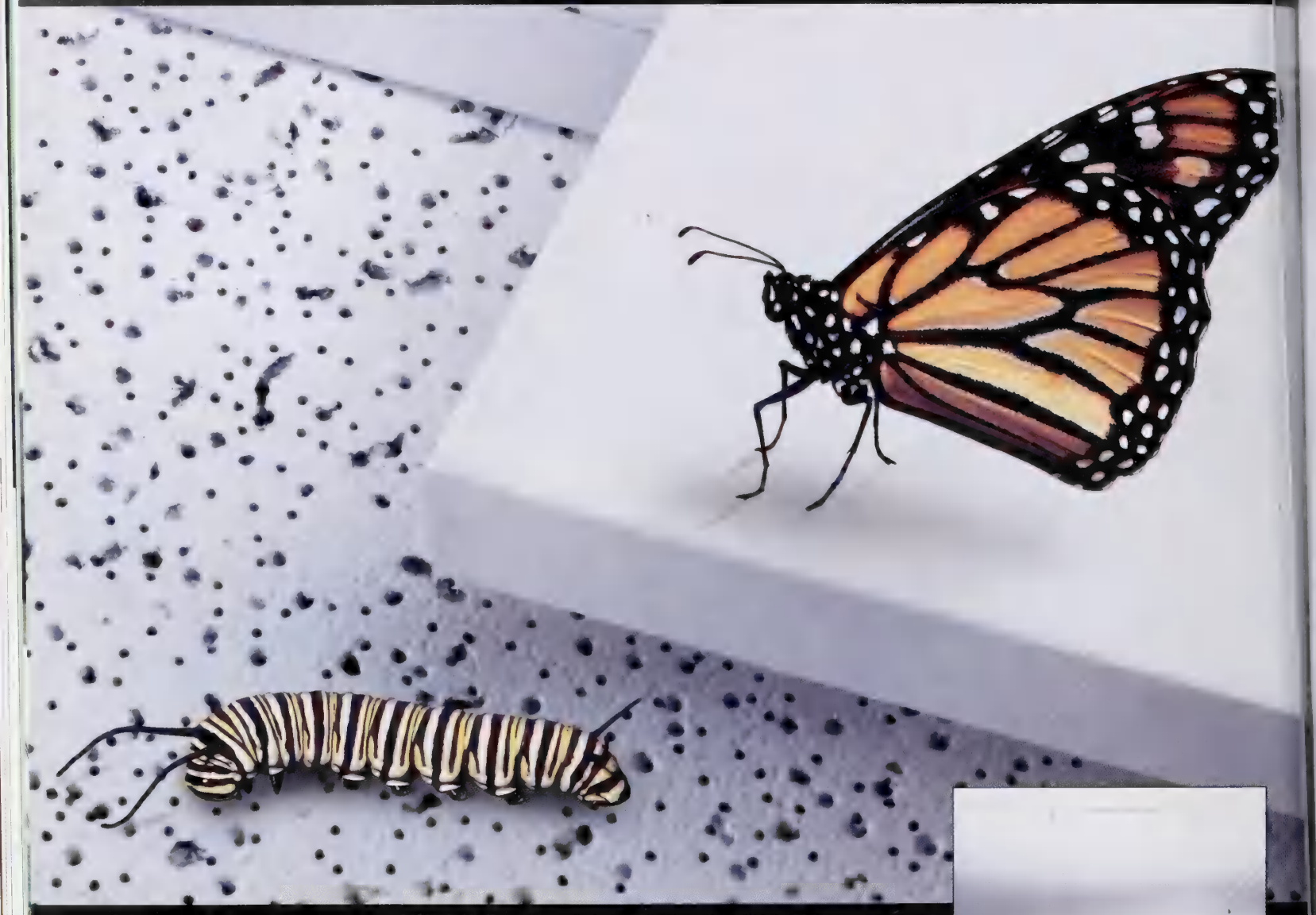


Epstein's Prospects Lofts mixed-use development (left and right) has been modeled extensively in 3D as he and his partners seek funding to build it.



Using models created in Form-Z (left), Epstein showed clearly how the firm would transform a tilt-up concrete industrial building into office space with a new facade, more windows, and a glass corner.

Ceilings transformed...

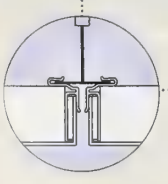




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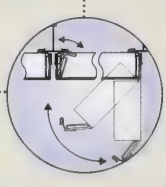
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Interiors

Regional vernacular, adaptive reuse, and subdued Modernism: Three routes to hotels with pride of place

BRIEFS

The Roosevelt Hotel in Hollywood has unveiled the first phase of a $15 million renovation by the Hong Kong–based architecture and interior design firm Team HC. The husband-and-wife principals, Clarence Chiang, Jr., and Hanna Lee, have introduced clean, Minimalist lines to the hotel's historic Spanish aesthetic, revamping 237 guest rooms, a reception area, and a restaurant/cabaret. **The Maritime Hotel**, in New York City, has docked in a quirky 1966 building originally designed as a headquarters for the Maritime Union. Clad in white ceramic tile with porthole windows that only face west, the hotel features 120 rooms with interiors by Eric Goode and Sean MacPherson. *W.W.*

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With recent reports of airline layoffs and Chapter 11 filings, SARS outbreaks in Asia and Toronto, and the political and economic repercussions of the war in Iraq, the travel industry has been taking a serious beating. Continuing a downturn begun in 1999, domestic hotel and motel construction starts were down again in 2002, to a level of 40 million square feet, according to forecasts by F.W. Dodge. But there may be a brighter hotel future coming into view on the horizon. As Dodge reports, many analysts predict a robust turnaround in the hotel market by 2004, with inflation-adjusted profit gains returning to levels witnessed in the flush days of the mid-1990s. As customer demand improves, hotel construction starts will unfold, forecast to grow 16 percent in 2004, 34 percent in 2005, and 8 percent in 2006, when they are expected to reach 65 million square feet.

This month's interiors section visits three hotels that were already on the boards during more favorable market conditions, and which are thriving during today's tighter travel climate. Stylistically, they take different routes toward creating a distinctive sense of place. For the Lodge at Torrey Pines, in La Jolla, California, a hotelier embraced the architectural legacy of works by Greene and Greene, adapting the firm's century-old signature details to create an Arts and Crafts retreat by the sea.



In Washington, D.C., a 19th-century federal building was retrofitted as the new Hotel Monaco. A cooperative alliance with the General Services Administration and landmark guidelines that limited interior interventions were two of the unusual project parameters for the design team. While the building's Neoclassical shell was restored, the hotel's eclectic interiors do not embrace a specific historical style, instead juxtaposing classic Modern pieces by icons like Mies van der Rohe with bright fabrics and finishes (right).

Tokyo's newest Four Seasons Hotel is one of the chain's smallest, with only 57 rooms. Perched within a glass office tower built in a business zone, the hotel features interiors by Yabu Pushelberg that employ luxurious materials and a subdued palette to cloister guests in clublike spaces. It's a serene retreat in the center of a frenetic global capital, perhaps an inviting spot to buffer the latest headlines. *William Weathersby, Jr.*

PHOTOGRAPHY © DAVID PHILIPS

Room 606: In Copenhagen, one hotel room preserves in microcosm the masterwork of architect Arne Jacobse



On the sixth floor of the SAS Royal Hotel in Copenhagen, a single space, Room 606, preserves in microcosm the masterwork of Danish architect Arne Jacobsen (1902–71). The last surviving original interior of the SAS House, a hotel and airline terminal completed for the Scandinavian Airline System (SAS) in 1960, the guest room provides a portal into Jacobsen's world, where Modernist forms were abstracted from nature, and architectural and interiors elements were melded into an integrated whole.

Visitors to Copenhagen can still rent Jacobsen's remarkable room as they would any other, and one guest who was captivated by the environment was architect Michael Sheridan. After his stay in Room 606, he later delved into the design history of the hotel, which in turn served as a jumping-off point for reflections on Jacobsen's oeuvre. In his new book, *Room 606: The SAS House and the Work of Arne Jacobsen* (Phaidon, 2003), Sheridan notes that the project distilled the architect's themes into an encyclopedic array of architecture, furniture, and the applied arts: "Examined in the context of Jacobsen's vanished masterpiece, [the room] provides entry into a much larger setting, a world of sensuous utility and industrial craft that is essentially timeless and utterly contemporary." With insightful text supported by lush photography and original sketches and drawings, the book is an engaging study of classic hotel design worth taking on the road. *William Weathersby, Jr.*



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Wenge wood paneling creates a horizon for furnishings and finishes in shades of green and gray (left and opposite, top). The original lobby (opposite, bottom) featured a marble floor and a ceiling of green metal panels punctuated by recessed downlights.



A lobby ceiling supported by Douglas fir rafters complements mahogany window frames. Lounge chairs are based on designs by Gustav Stickley.

Inspired by the houses of Greene and Greene, Arts and Crafts vernacular enriches the **Lodge at Torrey Pines**



By William Weathersby, Jr.

With broad roof overhangs shading a low-slung facade clad in cobblestone, shingles, and gunite, the new Lodge at Torrey Pines, in La Jolla, California, recalls an earlier era in the region's history. Designed by architects of record Wimberly, Allison, Tong & Goo with a team of interior architects and designers, the 175-room hotel embraces the rustic vernacular of the Arts and Craft Movement seeded in Southern California at the beginning of the last century. The building is an architectural homage to the residential designs of architects Charles and Henry Greene, the legendary brothers whose houses and bungalows, built mostly in the town of Pasadena, California, 100 years ago, epitomize the American version of the style that also came to be called Craftsman. Overlooking the manicured greens of a golf course at the edge of craggy cliffs that descend to the Pacific Ocean, the hotel aims to reflect the Greenes' passion for straightforward materials and handcraftsmanship, respect for the natural landscape, and integration of indoor and outdoor living.

The historical style of the hotel was envisioned by client William Evans of Evans Hotels, a family-owned chain of properties in the San Diego area encompassing La Jolla. Seven years ago, after Evans toured the Gamble House, a restored Greene residence in Pasadena (a two-hour

Contributing editor William Weathersby, Jr., is a freelance writer based in New York City. He edits the interiors and lighting sections of RECORD.

Project: *The Lodge at Torrey Pines, La Jolla, California*
Architect of record: *Wimberly, Allison, Tong & Goo—Don Fairweather, principal in charge; Carol Craddock, project architect; Diane Hardy, designer*
Associate architects: *William M. Hughes; Harvey S. Christensen*
Consulting architect (historical): *RLM Associates—Randell Makinson*
Interior designer: *Kristine Smith Design Studio—Kristine Smith*

The elevation's massing, with shingle and gunite cladding beneath broad roof overhangs, evokes houses by Greene and Greene (above). A backlit ceiling (below) is based on one from the Thorsen House.





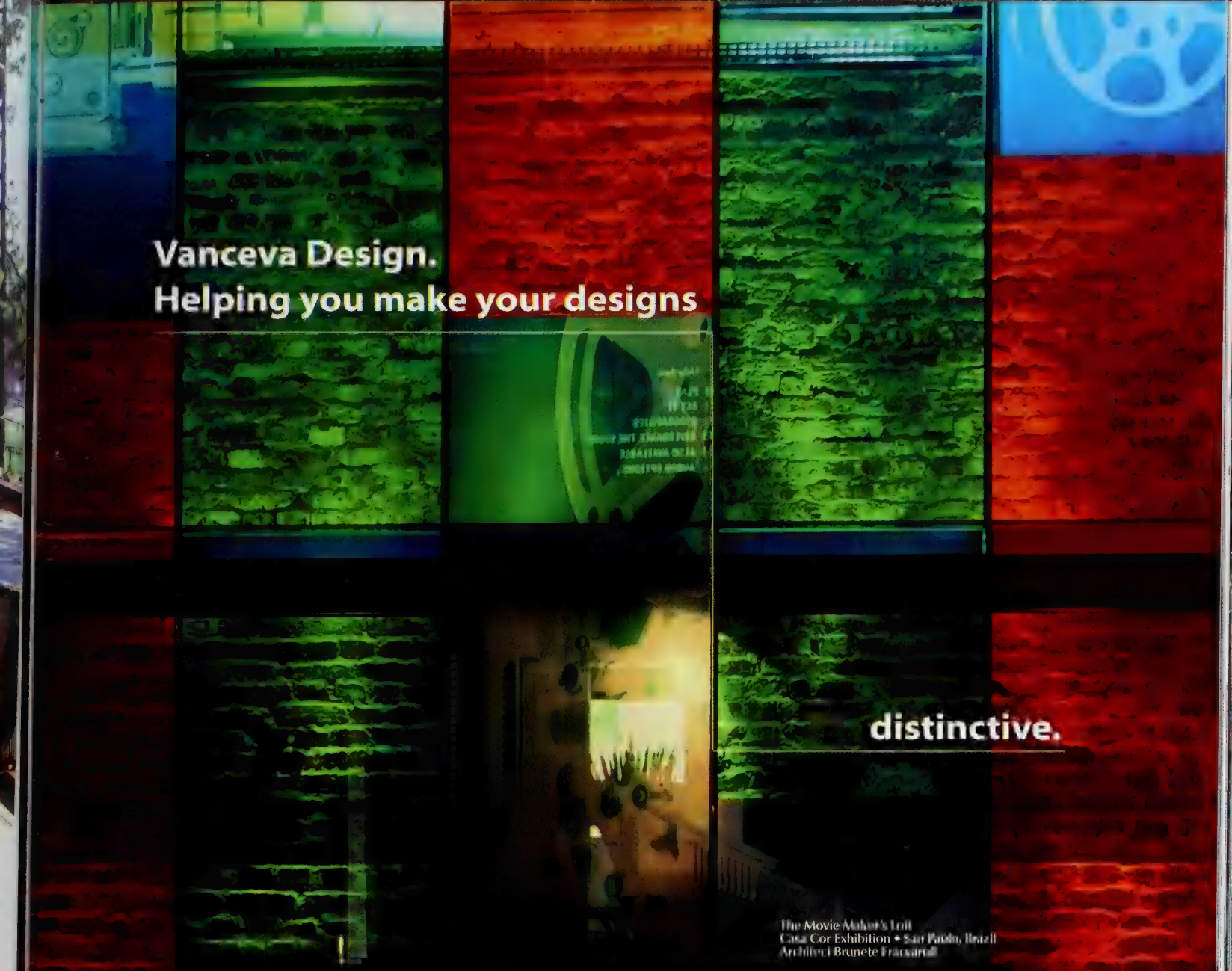
A pergola-covered deck off the main restaurant overlooks the grounds and golf course (above). The sitting area of the Blacker Suite (below) features wood-framed furniture, Tiffany-style lamps, and a fireplace bordered with mottled green tile.

drive north of San Diego) that is now a museum, Evans says he pursued the idea of honoring the architectural heritage of Greene and Greene at his new property, which was slated to be built on the site of a smaller motel. "The Gamble House embodies architectural integrity and attention to detail in a style that speaks to California before the advent of Hollywood and beach culture," Evans says. "We felt these values could be translated to the larger scale of a modern, intimate hotel, with authenticity as our goal. We didn't want to create a theme-park ambience."

Although the hotel references at least five houses designed by the Greenes at the peak of their career, it is most similar in style and detail to two projects considered their masterworks, the Blacker (1907) and Gamble (1908) Houses. "The Lodge was never meant to be a replica," says architect and engineer William M. Hughes, who collaborated on the interiors with designer Kristine Smith. Instead, building techniques and details embraced by the Greenes—the mortise-and-tenon joinery of mahogany beams, clinker-brick and cobblestone foundations, and earth-toned palettes suffused by art-glass lighting fixtures—are translated to the larger canvas of the lodge. Architect and historian Randell Makinson, an



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authority who has studied Greene and Greene for a half-century, served as a project consultant to ensure faithfulness to the spirit of their work.

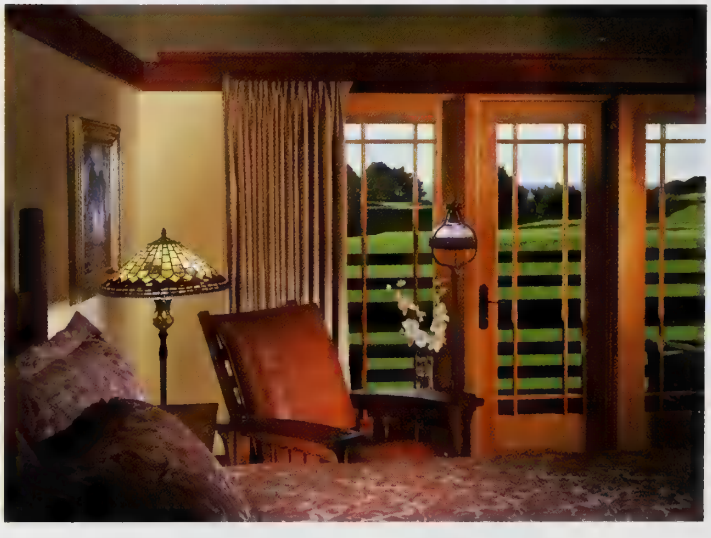
A sense of history is established as guests arrive beneath the entry's porte cochere, whose timber roof members are supported by a massive, brick-and-cobblestone stanchion at the center of the circular drive. The structure adapts this detail from the Blacker House, here with a roof span of 45 feet rather than the original dimension of 25 feet. The three-panel, stained-glass front door evokes that of the Gamble House,

CUSTOM FURNISHINGS AND MILLWORK EVOKE THE GREENES' EMPHASIS ON CRAFT AND MOTIFS INSPIRED BY NATURE.

and in fact was crafted at the same workshop favored by the Greenes, Judson Studios. At the Lodge, however, the art-glass design incorporates images of the local Torrey pine tree, rather than the original's oak.

Inside, the legacy of the Greenes is signaled by original stained-glass window panels from their Tichenor House in Long Beach, California (purchased at auction by Evans), set behind a reception desk of Brazilian cherry inlaid with tiger maple. Beneath the lobby's 28-foot-tall ceiling, supported by metal-strapped, tongue-and-groove rafters of Douglas fir, reproduction lounge chairs in the style of Gustav Stickley rest atop hand-woven Oriental rugs. One suite of green-velvet-upholstered

The hotel spa (above) departs from the work of the Greenes to offer an interpretation of designs by their contemporary Charles Rennie Mackintosh. Guest rooms showcase millwork and furnishings that recall the early days of California Arts and Crafts (below).





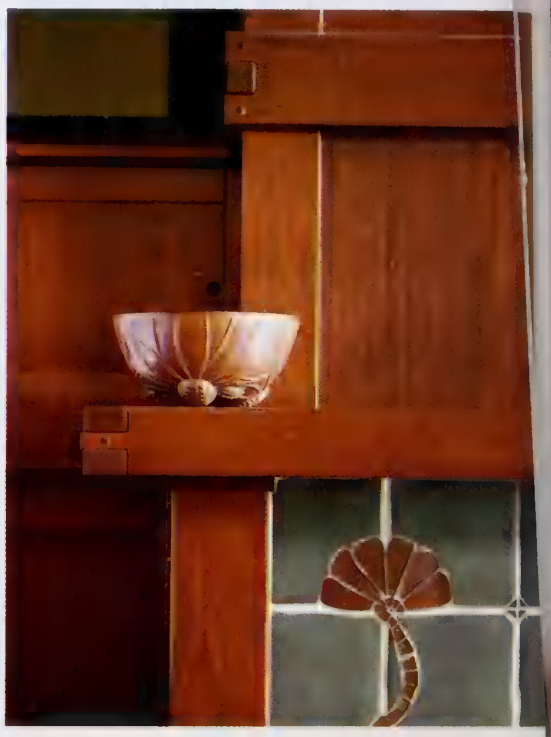
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A clerestory lets daylight into the lobby (left). Throughout the hotel, reclaimed old-growth fir timbers are combined with jatoba, teak, ebony, and mahogany details for a period ambience. Decorative motifs inspired by botanical specimens are carried through in accessories such as reproduction pottery and fireplace tile work (above).

furniture is adapted from Greene designs. Nearby, wood rocking chairs surround a fireplace whose metalwork detail of polished steel inlaid with copper is a stylized reference to the site's trees and cliffs.

The main restaurant, A.R. Valentien, is named after a San Diego painter and artisan who was a contemporary of the Greenes. Displayed throughout the restaurant are his original illustrations of the area's botanical specimens. The room showcases metal-strap, post-and-beam structure, wood-framed windows, and stained-glass lanterns.

AUTHENTICITY REIGNS, FROM LIGHT FIXTURES HUNG BY LEATHER STRAPS TO COPPER INLAYS CIRCLING A FIREPLACE.

Guest rooms range in size from 520 to 1,500 square feet. Solid wood doors with latches, Brazilian cherry moldings and picture rails, and Stickley-inspired furnishings evoke the Greenes' golden era. Earth-toned wallpaper, carpets, and fabrics—adapted from designs by William Morris—are accompanied by Hiroshige prints and reproductions of California plein-air paintings. Lavish marble bathrooms break the spell of historicism, but they are a test-marketed concession to the preferences of modern guests, according to management.

Convincing in its adaptation of Arts and Crafts tenets, the hotel offers details that catch the eye at every turn. A remote back-of-house staircase, for example, is bordered by a scalloped molding that evokes a waterfall—quoting a detail from the Blacker House. "No guest may ever notice this millwork," Evans says proudly, "but the design team knows it's there, and the legacy of the work that inspired it." ■

Sources

Windows, doors: *Pacific Architectural Millwork; Pella*
Hardwood floors: *Richard-Marshall Fine Flooring*
Cabinetry, millwork: *Pacific Architectural Millwork; Artisans Du Bois; Graham Lee Associates*
Wall coverings: *Sellers & Josephson; Bradbury & Bradbury; Sanderson*
Furnishings: *Stickley; Graham Lee Associates; Jensen Custom Furniture*

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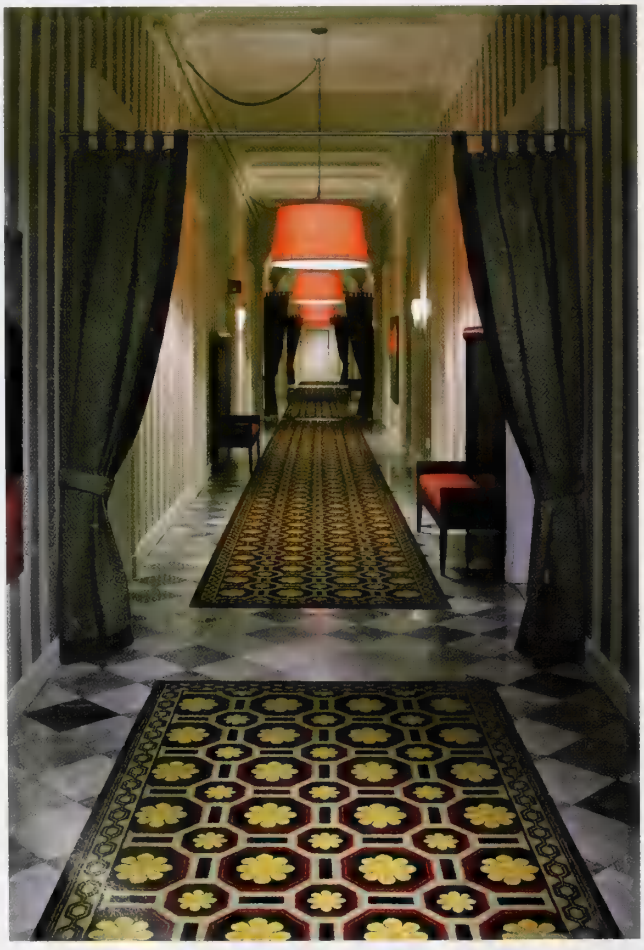
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In Washington, D.C., the landmark Tariff Building is restored and retrofitted as the new **Hotel Monaco**





The marble facade of the 19th-century office building (top) was restored by Oehrlein & Associates. Draperies and rugs visually break up the length of block-long corridors (above).

By John Peter Radulski

The historic Tariff Building in Washington, D.C., has gained new life as the grand Hotel Monaco, sparked by a successful collaboration between the public and private sectors. Rising halfway between the U.S. Capitol and the White House on 7th Street Northwest, the imposing, block-long marble structure houses a new 184-room hotel whose interiors set colorful furnishings, fabrics, and fixtures against a restored backdrop rich in 19th-century Neoclassical detail. Michael Stanton Architecture, Oehrlein & Associates Architects, and interior designer Cheryl Rowley Design were part of the project team.

When a federal commission vacated offices within the building in the late 1980s, the General Services Administration concluded that the outmoded spaces were no longer suitable as a federal facility. After plans to convert the building into a museum fell through, the GSA sponsored an open competition to develop new adaptive reuse proposals. The Kimpton Hotel and Restaurant Group was selected in 1998 to reconfigure the interiors as a hotel, with a plan to lease the building for 60 years. Kimpton covered the $34 million renovation costs, qualifying for a 20 percent rehabilitation tax credit, and agreed to pay a leasing fee to the federal government based on hotel earnings. Under National Historic Preservation Act guidelines, rents paid to the GSA will support the preservation of other historic properties in the agency's inventory, in this case revitalization in the surrounding Pennsylvania Quarter neighborhood.

What Washingtonians call the Tariff Building evolved from the General Post Office Building completed in 1842 by architect Robert Mills, designer of the Washington Monument and the Treasury Building. Inspired by the Temple of Jupiter in ancient Rome, it was the first marble building in the city. In 1866, Thomas U. Walter, architect of the Capitol's dome and wings, expanded Mills's original structure with a north-side addition. It was designated a National Historic Landmark in 1971.

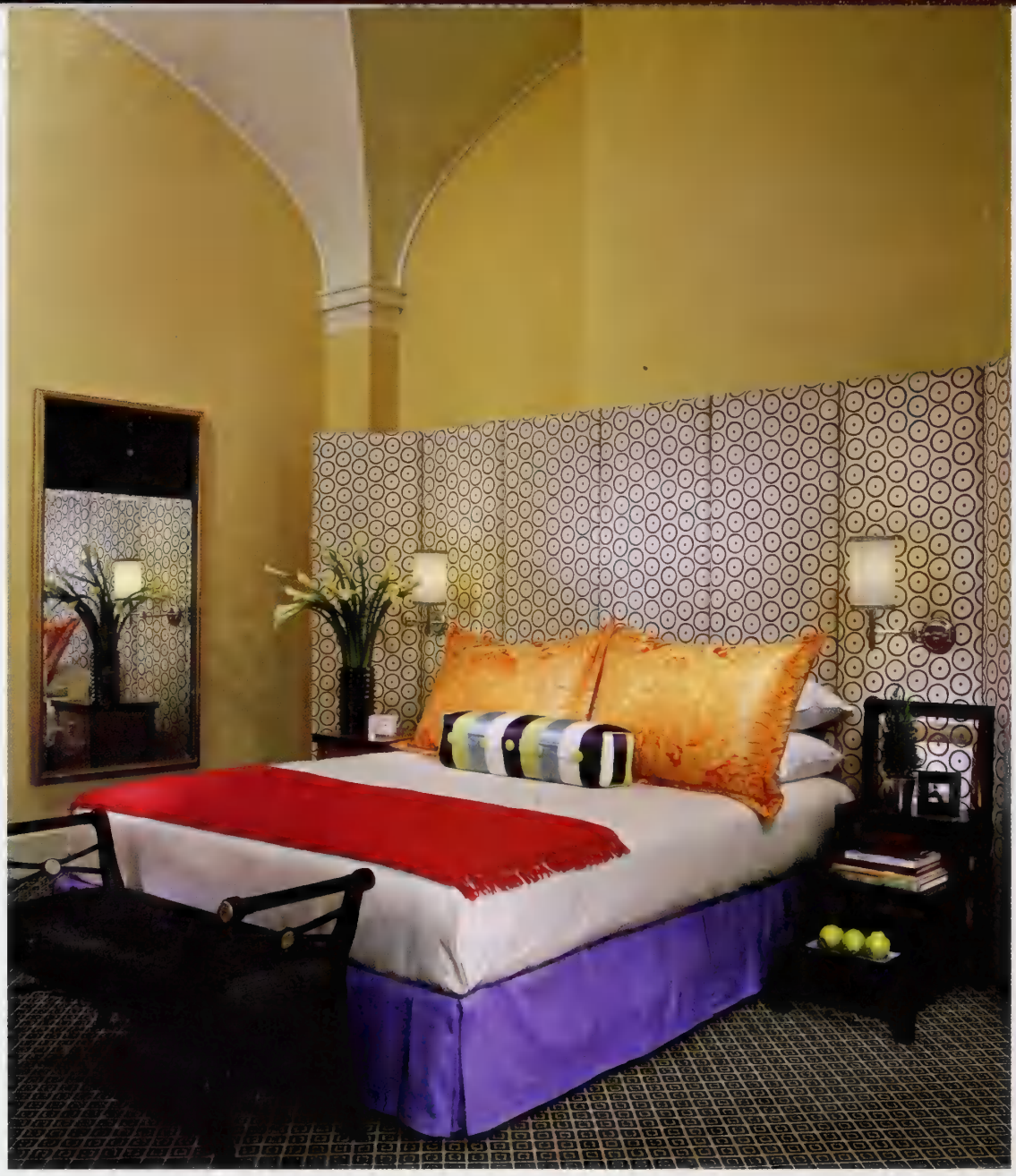
Oehrlein & Associates Architects helped prepare Kimpton's proposal to the GSA and served as preservation architect, while architect of record Michael Stanton came aboard with plans to transform the "mothballed" property into a luxury-class hotel. Because the building is landmarked, Kimpton was not allowed to make significant changes that would alter the original architecture. The first phase of the restoration, led

John Peter Radulski is the former editor of Hospitality Design. *He is a freelance writer and editor based in Westport, Conn.*

Project: *Hotel Monaco, Washington, D.C.*
Architect of record: *Michael Stanton Architecture*
Architect: *Oehrlein & Associates Architects—Mary Oehrlein, FAIA, principal architect (exterior and interior restoration)*
Interior designer: *Cheryl Rowley Design—Cheryl Rowley, principal designer; Robert L. LaCour, senior project designer; Sandy Ahn, design assistant; Maricris Climaco, project manager; Joseph Paz, production*
Consultants: *Heritage Consulting Group; Robert Truax Lighting*



e lobby lounge is
unded by crest-
tterned carpeting.
Neoclassical mantle
s faux-painted to
semble marble.





Folding screens employed as headboards mask sealed doorways and balance the scale of cavernous guest rooms (left). Restored cornices and doorways frame vibrant furniture and painted surfaces (below).

by Mary Oehrlein, FAIA, was demolition and abatement that removed hazardous materials and a snarl of dropped ceilings and other modern interventions. Plumbing and electrical systems were replaced, with new components running horizontally between the first-floor ceiling and second-level floor. Vertical runs now provide these services to guest rooms, while the attic houses ductwork and other mechanical support systems. Original vaulted ceilings, spiral staircases, and plasterwork were restored. Oehrlein was also retained by the GSA to restore or replicate the building's exterior stonework, iron fencing, roof, windows, and light fixtures.

The interior design team, led by Cheryl Rowley, also maneuvered around structural and technical confines. Doors along the guest-room corridors could not be moved, although the former offices could be combined to achieve a variety of guest-room configurations. Large upholstered folding screens serving as headboards obscure unused doors as well as fuse panels that could not be set into the walls. Armoires are employed in place of closets. Separate modules serve as bathrooms, since ceilings could not be altered. "Thirty percent of the guest rooms were below grade and the windows were at almost ceiling height," Rowley notes, "so we installed backlit sheer screens to add brightness."



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Working within the shells of the guest rooms and grandly scaled public areas, Rowley mixed traditional and contemporary furniture, fabrics, and lighting. The lobby's original columns are uplit by chrome-and-alabaster torchères. A Mies van der Rohe daybed sitting beneath swags of black-and-cream awning-striped fabric looks perfectly at home in a lounge area. Reproductions of furniture designed by Warren Platner and Le Corbusier add to the eclectic composition.

Guest rooms, many with 15-foot-high vaulted ceilings, are painted pale yellow and offset by periwinkle-blue fabric upholstery on lounge chairs and ottomans, red cashmere bed throws, and Neoclassical elements such as mahogany armoires. In every guest room, including 16 suites, a reproduction of Jean-Antoine Houdon's 1789 bust of American architecture patriarch Thomas Jefferson adds Federalist flavor.

It seems appropriate that the Hotel Monaco has rescued this stately building from neglect: The first building recorded at the site was Blodgett's Hotel, built in 1795 and destroyed by fire in 1836. ■

Sources

Furniture: *Troy Wesnidge; Knoll; Vaughan Benz; Jensen Custom Furniture; Les Meubles; David Edwards; Shelby Williams*

Fabric, upholstery: *Architex; Pierre Frey; Valley Forge; Knoll; Kravet; Clarence House; Maharam; Cortina Leather; Jack Lenor Larsen; Mark Tursi Leather; Old World Weavers*

Carpet: *Alarwool; Milliken*

Wall covering: *Koroseal; Metro; Sellers & Josephson*

Lighting: *Translite Sonoma; Robert Abbey; Sirmos; Leucos USA; Donghia*

For more information about this project, go to Projects at **www.architecturalrecord.com**.

The Hotel Monaco offers 7,000 square feet of meeting space, including the Paris Ballroom (above), which showcases original columns and arches. A dramatic spiral staircase designed by 19th-century architect Robert Mills was also restored (below).



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Student 1st Place Winner

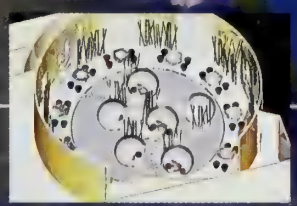
Jamie M. Herring
Project: Ducati Retail Store
Washington State University
Interdisciplinary Design Institute
Spokane, WA





Student Honorable Mention

Hitomi Hayashi
Project: Restaurant of Illumination, Modern and Asian style
University of Bridgeport
Bridgeport, CT





Student Honorable Mention

Emily R. Daw
Project: It's About Time
University of Cincinnati
Cincinnati, OH





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Yabu Pushelberg creates a an oasis of calm for the new **Four Seasons** hotel in Tokyo's Marunouchi district

By Leanne B. French and Clifford A. Pearson

Tucked within a 31-story glass office tower designed by the joint-venture team of architect Nikken Sekki and Takenaka Corporation, one of Japan's largest design-build companies, the newest Four Seasons hotel creates an intimate reserve hovering above the bustle of Tokyo's Marunouchi business district. With only 57 guest rooms (including nine suites) and contemporary interiors designed by Yabu Pushelberg, the hotel is a trendier younger sibling of the Four Seasons family, a retreat that adheres to the hotel chain's tradition of opulence while striking out in a less traditional architectural style.

Toronto-based partners Glenn Pushelberg and George Yabu were brought in by the Four Seasons management group to forge the hotel's fresh identity and reflect the modern tastes of its young owner, Hong Kong businessman Richard Li. "The owner, who was 32 at the time, wanted a hotel that spoke more to him and his generation," says Pushelberg. Here, sharp, rectilinear architectural lines and a textured collage of stone, wood, and glass embody the notion of luxury.

Originally slated as apartments, the lower floors of the building were converted to hotel use only after construction had begun on Li's Pacific Century Place tower. "Accommodating a five-star hotel in the existing space was a challenge," admits Tetusuji Yuki, an architect with Takenaka who worked on the project with colleague George Kurumado. Changes to the apartment-floor sector included adding two extra elevators, space for back-of-house hotel services, and triple glazing for improved sound insulation.



The reception area (above) and lobby lounge (top) juxtapose warm-toned wood, stone, and upholstery.

Inserted between the third and seventh floors, the hotel was lim-

Leanne B. French is a freelance writer based in New York City. Senior editor Clifford A. Pearson was on a fellowship in Japan this spring.

Project: *Four Seasons Hotel Tokyo at Marunouchi, Tokyo, Japan*
Architects: *Nikken Sekki; Takenaka Corporation—George Kurumado, project director; Tetsuji Yuki, project architect*
Interior designer: *Yabu Pushelberg—George Yabu, Glenn Pushelberg, principals; Christopher Koroknay, Lizette Viloria, Kelly Buffy, Ayako Sugino, Anthony Tey, Paul Pudjo, Minh Duong, Polly Chan, Sunny Leung, James Robertson, Christina Gustavs, project team*

PHOTOGRAPHY © ERIC LAIGNEL



ited in square footage and suffered from low ceilings and wide, flat floor plates. Yabu Pushelberg saw the constraints as design providence, allowing the team to approach the hotel as it would a private club. "Because it was so small, the challenge was to link the spaces as an intimate series of salonlike rooms, rather than trying to evoke a grand, sweeping hotel," explains Pushelberg.

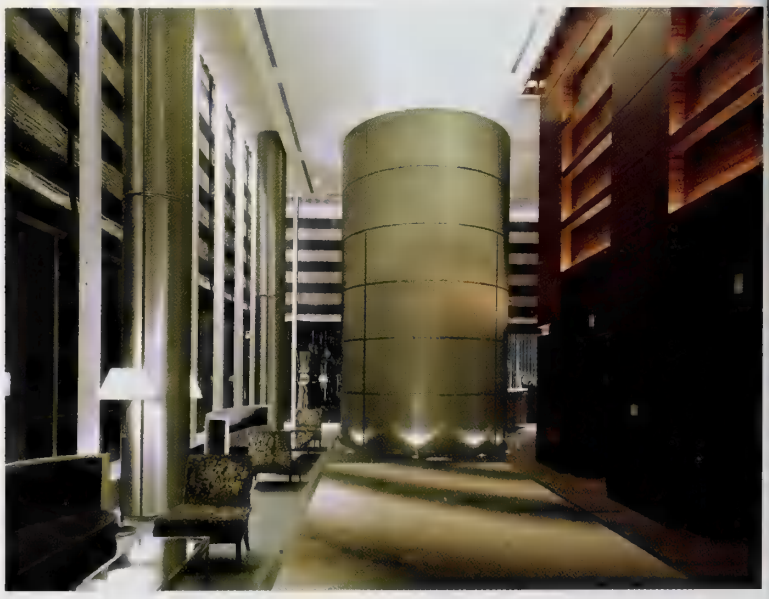
The concept of secluded luxury suited the hotel's busy location neighboring Tokyo Station, with the Imperial Palace and Ginza shopping district also nearby. Despite the bustle, guests can escape from the fast-paced surroundings via the hotel's entrance, placed discreetly at the side

WITH INTIMATE PUBLIC SPACES AND ONLY 57 GUEST ROOMS, THE HOTEL HAS THE AMBIENCE OF A PRIVATE CLUB.

of the building. Just outside the entry, water cascades down a freestanding quartzite-clad wall, creating a serene welcome. Stepping inside to the first-floor transfer lobby, the urban noise is moderated by triple-glazed windows that provide a hushed soundscape. Rising from the corner of the building, a 13-foot-diameter structural column, required by earthquake codes, is transformed into an organic curvilinear form wrapped in steel bands. Ebony clad walls draw guests toward elevators that take them to public areas and guest rooms on upper levels.

The hotel's main public venues are centrally located on the seventh floor. Inspired by the lobby of the Four Seasons Hotel Milan, the

In a lounge area, low-rise seating surrounds a gas-jet fireplace faced in quartzite. Red Zulu hats are displayed as art atop a table. A structural column banded in steel and a wall of elevators faced in ebony create a strong presence in the transfer lobby (below).







A wall of quartzite topped by macassar ebony borders a path through the lobby (above). Restaurant chair frames are mahogany, while tabletops are ebony with rosewood trim (left).



reception area, lobby, bar, restaurant, and spa are arranged as a series of spaces connected along a central walkway. Yabu Pushelberg arranged furniture in the lobby lounge in seating groups of varying sizes to encourage meeting and mingling. Unspectacular views from most vantage points prompted the designers to shift focus inward. In the bar, attention is redirected with the placement of five metal-framed panels of white onyx laminated to glass and backlit at night. In the lobby lounge, a stone-slab hearth surrounds a gas-jet fireplace as a sculptural presence in the cloistered environment.

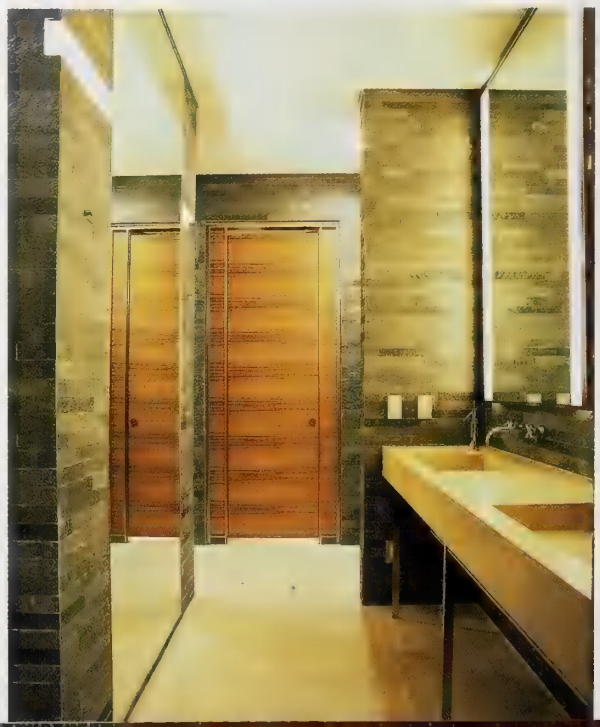
Public areas are enveloped in warm colors, from plaster wall finishes accented with mother-of-pearl inlay to handmade Chinese carpets

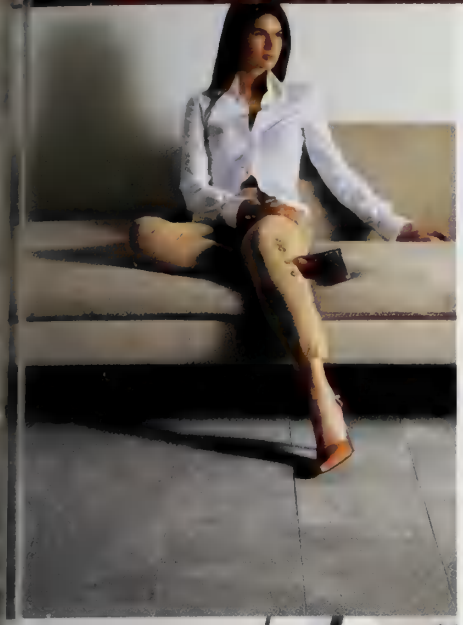
WHEN THE LOWER FLOORS OF AN OFFICE TOWER WERE ADAPTED AS A HOTEL, A LAYERING OF TEXTURES TRUMPED VIEWS.

in gradations of taupe to cream. The central walkway leads to the 65-seat restaurant, Ekki, which translates as "train station," a nod to its views overlooking the rails. High-backed banquettes divided by steel rectangles are placed around the perimeter, while two groups of four tables in the center of the restaurant are separated by freestanding carbon-fiber rods that form screens. While not typically Japanese, the decor is infused with an Asian flair by a large pair of hands from an antique Burmese Buddha, as well as a hand-painted screen adorning a wall.

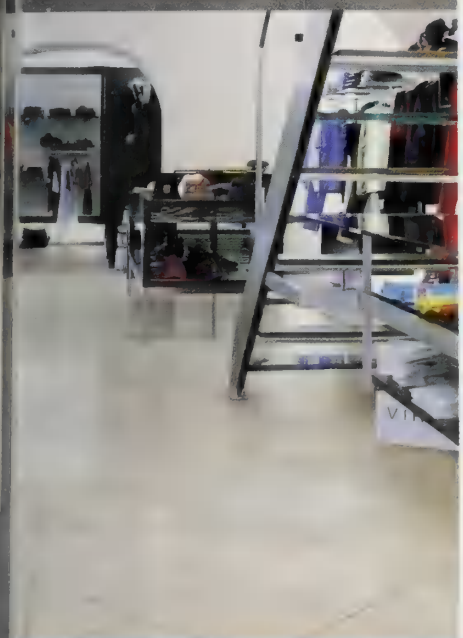
On the four floors below the lobby level, guest rooms combine

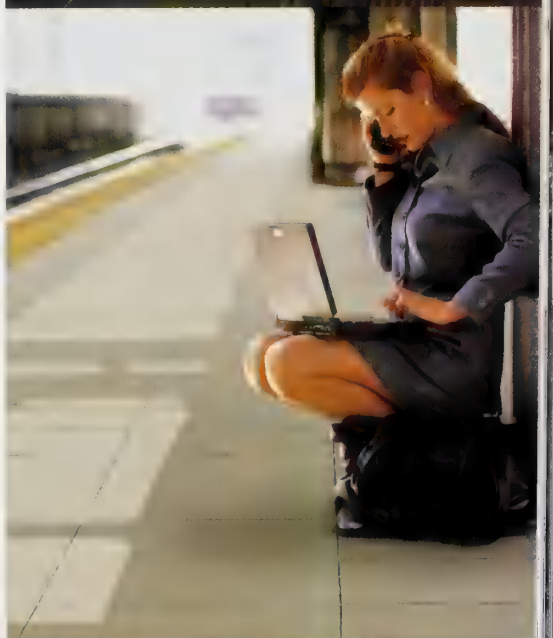
The 3,444-square-foot health club and spa (above and below) features traditional Japanese Onsen baths and facilities for Shiatsu massage. Quartzite walls carry through a detail from the lobby spaces.



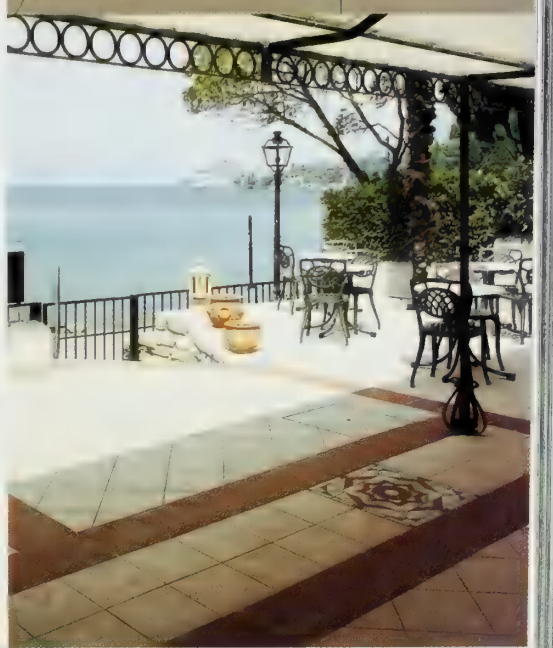












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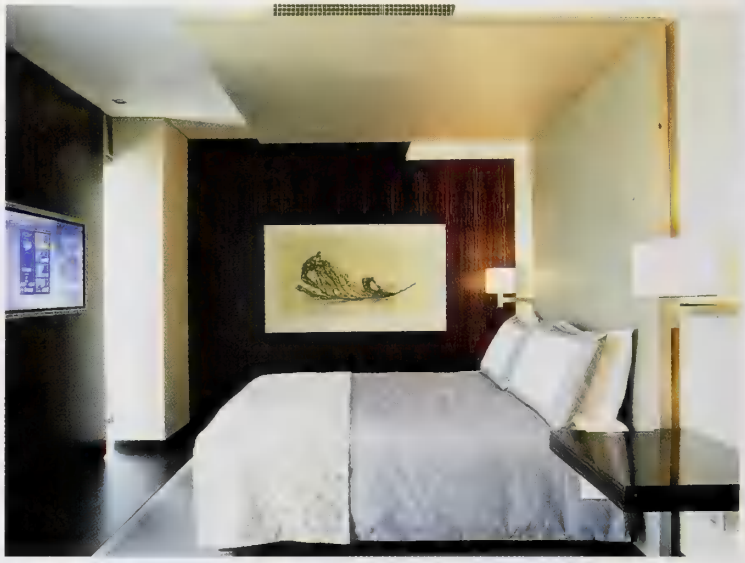


The Four Seasons Hotel Tokyo presidential suite (above and right) features ebony flooring. Custom furniture is constructed of woods including ebony, sycamore, and rosewood. Built-in cabinetry and a streamlined canopy add sculptural interest to the suite.

richly textured materials to evoke a high-end home away from home. Rooms range in size from 474 to 1,722 square feet in 17 configurations. Neutral tones and floor-to-ceiling windows framed by sheer draperies or wood-framed panels of glass-laminated fabric create a subdued landscape. Within each room, the placement of custom furniture—displaying the patinas of ebony, sycamore, and rosewood—focuses attention away from the outside world and inward to comfort.

Italian sycamore wall panels and dark South American wood flooring in standard guest rooms and ebony in suites envelop the rooms in warmth. Plush beds with leather headboards and bathrooms clad in Italian limestone and black slate are luxury creature comforts. Sculpted Italian tubs positioned in the corners of suites offer panoramic views of the city. An ambitious program of original work by Asian and Western artists further enriches the visual experience.

"Hotels are as much an emotional experience as a studied architectural experience," says Pushelberg. At the hotel at Marunouchi, Yabu Pushelberg's take on Four Seasons style introduces an oasis of calm at the center of a global capital. ■



Sources

Furniture: *Decca; Knoll; Palumbo; Pucci; Louis Interiors; Minotti; B&B Italia; Void; Hickory*

Upholstery: *Donghia; Pollack; Jack Lenor Larsen*

Carpet: *Tai Ping*

Lighting: *Eurolight; McGuire; Ralph Lauren Home; John Saladino; Tango*

Plumbing: *Dornbracht*

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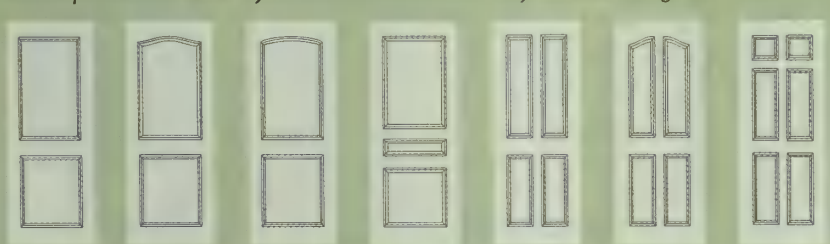
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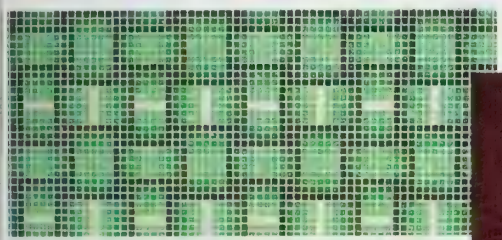
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Interiors Products

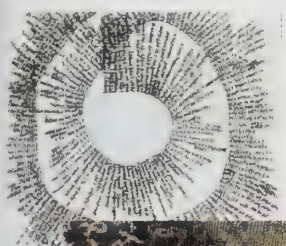


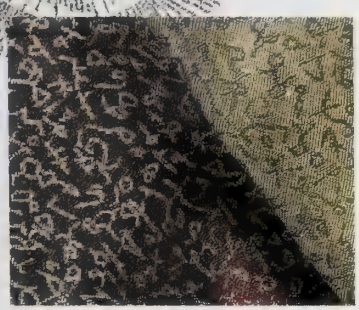
▲ The next legendary longue?
The Musa chaise, designed by Davide Varotto, features a multilayer birch structure veneered in cherry, light cherry, kajal, amber, or dune oak on a base of solid cherry or oak. It comes with a leather or fabric roll cushion and an optional leather or fabric seat cushion. The modern chaise longue measures 62" x 12" x 30". 866/3HABITA. Habita Collections, Pacific Palisades, Calif. **CIRCLE 200**



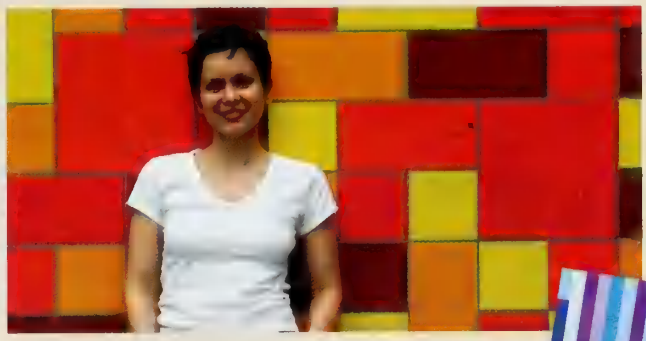


▲ Preprogrammed mosaic patterns
Bisazza has added three new series of preprogrammed patterns to showcase the design potential of its mosaics, including Stripes, Camouflage, and Basket—a basket weave pattern available in blue, brown, gray, and green (above). Another new addition is Gloss (right), iridescent ¾" tiles available in 12 shades. 305/597-4099. Bisazza, Miami, Fla.. **CIRCLE 201**





◄ Noteworthy upholstery
Pallas has introduced a collection of jacquard upholstery inspired by the calligraphic art of Jan Baker, professor of graphic design at the Rhode Island School of Design. Created by designer Lori Weitzner, the Jottings Collection features the visual notes taken by Baker at lectures, poetry readings, and faculty meetings that have been "woven" into visual verse (above left). These calligraphic markings have been adapted by Weitzner into designs (left) made of recycled yarns woven on looms powered by windmills. 800/4-PALLAS. Pallas Textiles, Green Bay, Wis. **CIRCLE 203**

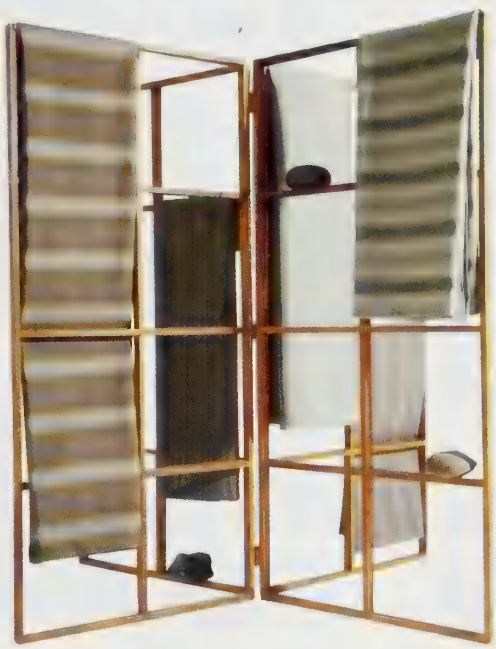


Interiors Product of the Month
Painted Canvas Rugs



Artist and rug maker Patricia Baun (above) saw a niche in the interiors market for hand-painted canvas rugs featuring striking color combinations and modern patterns. Baun says the heavyweight cotton canvas rugs, available through her Vancouver-based design studio, PMB Designs, offer the best attributes of textile-based floor coverings, including organic texture, pliable feel, and handcrafted quality, while featuring the vivid colors and ease of maintenance generally associated with synthetic flooring. The rugs are hemmed to give a finished appearance, and the painted surfaces are sealed with several coats of clear varathane to protect them from wear and moisture. While the three existing patterns are appropriate for both residential and commercial indoor applications, Baun can also create her designs in custom sizes, colors, shapes, and patterns. 604/879-7775. PMB Designs, Vancouver, Canada. CIRCLE 202

▼ Scotland yarns
Ted Boerner and Frank Pontes, partners in San Francisco–based Ted Boerner Furniture, have introduced the FrankFabrik textile collection to complement the company's classic modern furniture. FrankFabrik's initial series, Scottish Moors, offers five colorways of striped neutrals and were conceived to pair with Ted Boerner's existing solids. Scottish Moors is woven in Scotland of 100 percent wool and is available in two patterns inspired by the landscape of the Scottish countryside, Highland and Furrows. The fabrics' colors feature rich combinations of tobacco, coffee, olive, khaki, sage, mushroom, and sand. 415/487-0110. Ted Boerner, San Francisco. **CIRCLE 204**



Interiors Products
Showcase Ireland

From crystal chandeliers to turnkey pubs primed for your local main street, the best of handicrafts and interior products made in Ireland was on display at the country's annual trade fair held in Dublin last January. *William Weathersby, Jr.*



◂ A flair with chairs

Operating from a workshop in Ballymahon, the seven-year-old company Robert English Designs creates custom commissioned furniture pieces constructed of wood. A three-person team led by craftsman Robert English fabricates designs primarily in a contemporary style, including beds, tables, chairs, desks, chests of drawers, and armoires. Most pieces, for residential or commercial use, are solid wood, accented by detailing with specialty veneers and inlays, including masur birch, bird's-eye maple, oak burr, cherry, walnut, and cedar. Natural finishes are hand-buffed and waxed. 353 090 643 2487. Robert English Designs, Ballymahon, County Longford, Ireland. **CIRCLE 205**



▲ Import an Irish pub

A design-build exporter of traditional Irish dining and drinking establishments, the Irish Pub Company crafts custom-fitted bars for commercial locations or privates houses. The company visits the site and specifies shell preparation to be fitted out by local contractors, including mechanical, electrical, and structural services. All furniture, fittings, and fixtures are shipped and then assembled by a team of Irish craftsmen. The company also consults on food and beverage, entertainment, and training operations. 702/795-0090. The Irish Pub Company/McNally Design Group, Las Vegas. **CIRCLE 206**

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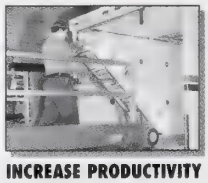
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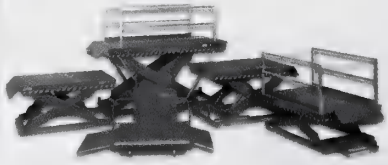


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◄ Mirror image

Trained in Ireland at the National College of Art and Design, artisan Christine Hughes produces a range of ceramic objects including mirror and picture frames, lamps, bowls, and vases. The line is handcrafted through a stoneware technique whose finished texture is inspired by natural forms. Each piece comes in a range of sizes and colors, in addition to custom specifications. 353 1 670 3699. Christine Hughes Ceramics, Dublin. **CIRCLE 207**

▼ Wool finery underfoot

After support from the Irish State helped to revive the dormant company, Donegal Carpets is again producing custom wool rugs. Hand-knotted carpets have been made over the years for clients including the White House and the Vatican. For a new rug at the University of Notre Dame, in Indiana (below), consultant Eileen Hampshire and architect John Hampshire reworked an Arts and Crafts design that had been in the company's repertory since its founding in 1898. 941/312-0075. Art To Walk On, Sarasota, Fla. **CIRCLE 209**



► Crystal clear

Helmed by Joseph Williams, the family-owned Heritage Irish Crystal Company manufactures a line of full-lead-crystal decorative accessories that includes table lamps and chandeliers. For pieces such as the Cricklewood Lamp (right), one of more than a dozen lighting designs, the company employs a hand-dipped polishing process that preserves the crystal object's crisp edges and sharply defined angles. 212/686-5138. Heritage Irish Crystal, New York City. **CIRCLE 208**



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New Products

The following **contract furnishing and carpeting** choices can enhance a variety of commercial settings, from the conservative investment bank office to the avant-garde advertising firm. This month, specifiers will gather to see the latest technology-integrated conference tables and **grime-fighting carpet tile** at NeoCon, held June 16–18 at the nation's second-largest building, Chicago's Merchandise Mart. *Rita F. Catinella*





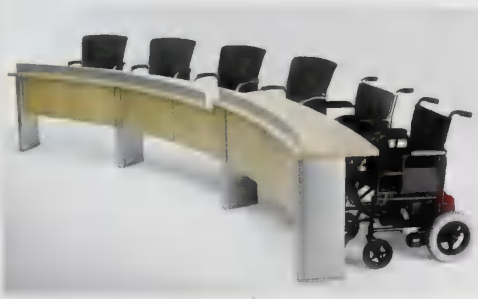
Company rebrands to reflect its focus on modern contract furnishings

Founded as a tool and die shop in the 1930s, contract furnishing manufacturer Bretford has dropped the company's "Manufacturing" surname as part of a new branding campaign. Along with a new logo and Web site, the company plans to introduce several product lines this year, as well. The first new offering, the Plus soft seating and table collection, resulted from the creative energies of the Formway Design Studio in New Zealand, which commissioned Bang Design of Australia to produce a soft-seating line that answered the need for breakout and meeting areas in an open office. The Plus collection includes chairs and sofas with or without arms that feature a plush foam body and hard cast-aluminum frame; benches in two sizes that feature a lightweight frame allowing for easy reconfiguration; and tables available in a clear glass, frosted glass, or wood top in a choice of nine veneers. All chairs, tables, and benches in the collection are fitted with glides on the legs for easy shifting. 847/678-2545. Bretford, Franklin Park, Ill. **CIRCLE 210**

Plus tables are available in either a wood (left) or glass top (right).

Linking training tables to technology

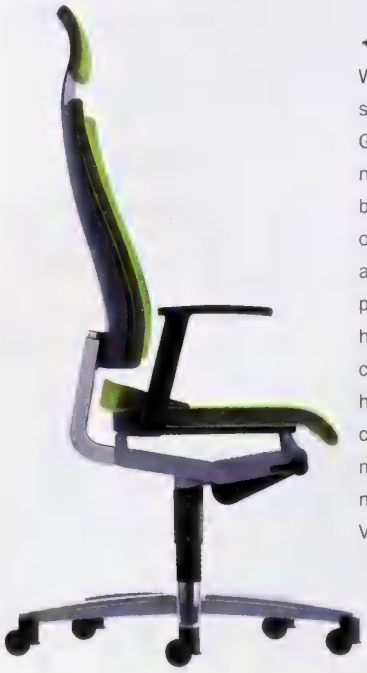
Nienkämper introduces the Vox Linked Table for corporate, executive, institutional, and public training centers where connectivity is essential. Designed by Mark Müller, Vox Linked Tables are constructed at two heights to accommodate wheelchair access. The Vox Forum, which is UL and CSA listed, is secured into the tabletops and allows for all forms of power, voice, and data connection. The base includes a channel and allows the routing of cables from the floor and the storage of excess cable. The units are available in wood finishes from light to dark as well as laminate, and specifiers can choose from three solid wood edge details. All aluminum components—the base, Vox Forum, and privacy screens—are available in five anodized aluminum finishes. Vox accessories include wire managers and grommets with security loops. The faceted modesty panels are offered in a range of heights. 800/668-9318. Nienkämper, Toronto. **CIRCLE 211**





Child-care facility departs from A-B-C color scheme

The 2002 DuPont Antron Design Award Grand Prize was presented to C&R/Rizvi for its use of carpet in the Reebok Childcare Center for Reebok International's headquarters in Canton, Massachusetts. Carpet was the preferred floor covering in the design since it offered a soft and warm play area for children; floor tiles were chosen for their ease of replacement. Entendre, a product from Bentley Prince Street constructed of Antron Legacy nylon, and Interface Flooring Systems' Paintbox in Antron Lumena solution-dyed nylon, provided the right range of secondary colors for the facility. The team broke away from the primary colors generally used for children, instead using soothing but rich tones of apricot, lavender, and chartreuse for the child-care facility. 800/458-4329. DuPont Commercial Flooring, Kennesaw, Ga. **CIRCLE 212**



◄ Award-winning seat

Winner of the Orgatec Award for seating last October, Solis German–designed office seating is now available in America. Solis may be specified with mid or high backs, optional headrests, and auxiliary adjustable back and pelvic-region seat pads. Adjustable features include seat height, swivel, lumbar support, synchronous tilt, seat depth, and armrest height and width. Structural and base components are high-grade cast aluminum in combination polished and matte black finishes. 972/641-2860. Vecta, Grand Prairie, Texas. **CIRCLE 213**

▼ Chipper seating

Chip is an armless, stackable chair from the Good Design Award–winning Finnish designer Antti Kotilainen. Chip is made of melamine-covered birch sheets and a chrome-plated or steel frame and is available in a range of vibrant and neutral colors. Suitable for cafeterias, conference rooms, or as an office side chair, Chip can stack 12 high or 20 on a dolly cart. KnollStudio will serve as the exclusive distributor of the product for the U.S. and Mexico. 212/343-4125. Knoll, New York City. **CIRCLE 214**



► Putting your work space to work



The horizontally supported components of the Xsite office system allow the work surface, storage, and structure of each office area to be altered with ease. The system's 3" deep structure accommodates Xsite performance tiles that turn otherwise wasted space into file holders, display areas, and hideaways for storage. The modularity of the tiles can help personalize the look of each individual employee area. 800/482-1818. Kimball Office, Jasper, Ind. **CIRCLE 215**



◄ Welcoming office furnishings

The Hello Scoot mobile seat is part of Haworth's newest introduction, the Hello Collection. The Hello Scoot can fit under a conference-room table and features a swivel base, oversize casters, and an optional upholstered arm bolster. The other members of the collection include a guest chair with a sweeping back and curved arm, a stationary lounge (one- or two-seat version), and a mobile lounge with a power pack, tablet arm, and swivel base. 616/393-3000. Haworth, Holland, Mich. **CIRCLE 216**





▲ For those intense conferences

Following last year's Origin casegood systems line, Nucraft returns to its conferencing roots with Avid. The Avid conference table provides extensive technology capacity concealed beneath arched doors traversing the center of the table. Avid eliminates the need for ancillary storage and is available in a wide array of shapes, sizes, and materials. 877/NUCRAFT. Nucraft, Grand Rapids, Mich. **CIRCLE 217**



▲ No unwanted pop-ups

When the deQuorum Worksurface Portal is installed into existing conference tables, workstations, mobile teaming tables, or other work surfaces, it provides ready access to power, voice, and data without the pop-up components or lids that must remain open during use. The system is designed so that wires and cables exit the device while the cover is closed and flush with the table. Communication ports can easily be replaced to accommodate changing work-surface function and technology. 800/621-0049. The Wiremold Company, West Hartford, Conn. **CIRCLE 218**

Even the outside of Dean and Deluca® is appetizing.







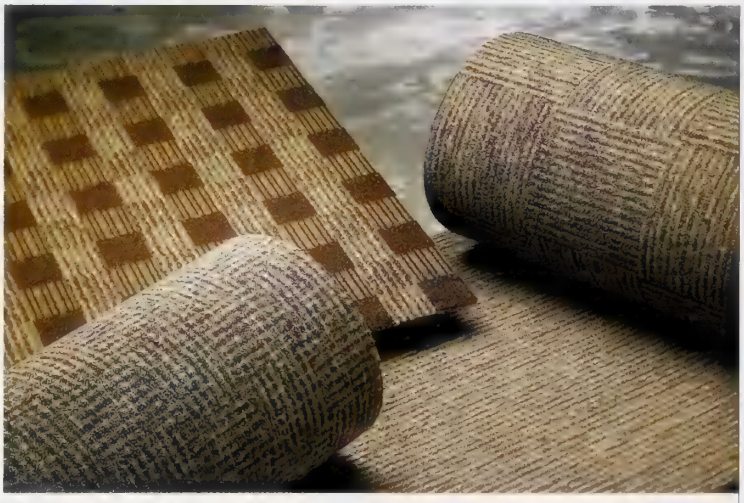
The culinary masters at Dean & Deluca feel that choosing the finest ingredients, even for building design, is vital. That's why Sunbrella Firesist fabric was the obvious choice. It's woven from SEF+ self-extinguishing modacrylic fibers giving superior flame retardancy. So it meets the strictest fire codes. It also resists fading, because the colors are locked-in. And, with over 25 styles and colors to choose from, you've sure to find one that suits your taste.

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▲ Back to neutral

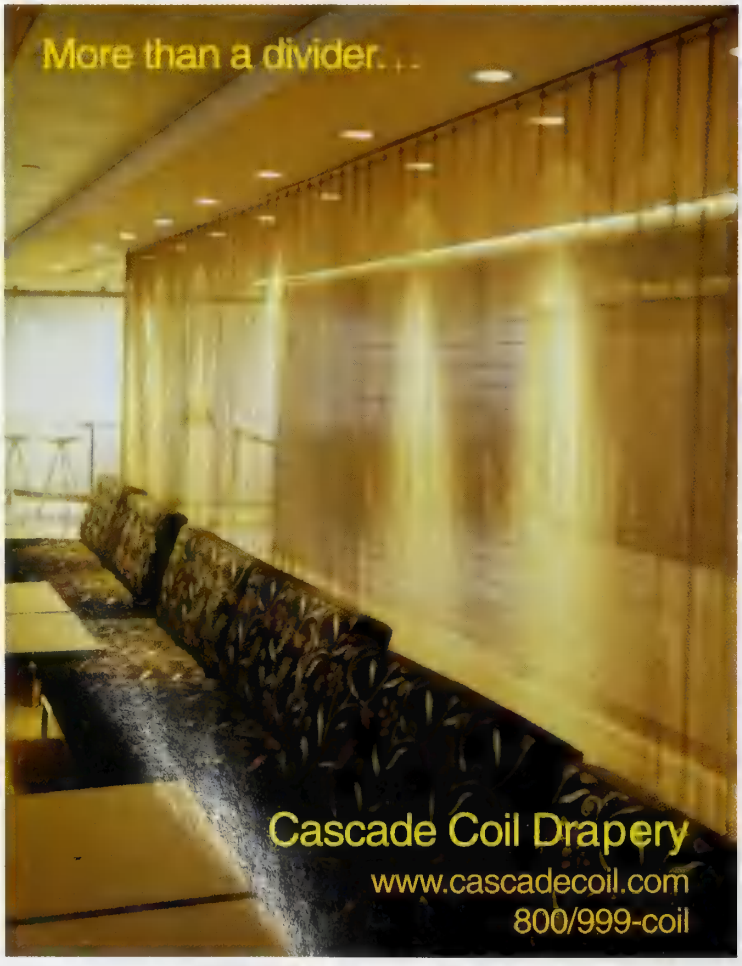
Milliken Carpet's Simply This collection of 36" loop-pile modular carpets was created by Milliken's Design Studios in response to designer requests for more "back to basics" carpet styles that offer a feeling of longevity while reflecting present fashion trends. Simply This comes in 15 designs organized into five families to help designers coordinate or mix and match patterns, scales, and neutral colors in interactive interior schemes. 800/241-4826, ext. 5200. Milliken Carpet, LaGrange, Ga. **CIRCLE 219**

▼ Solid color choices

Designed by Suzanne Tick exclusively for the Prince Street line, Crepe Suzette (below left) achieves a contemporary shag texture with a high loop construction. Available in 18 standard colorways, the high-performance 12' carpet is made of Prince Street approved Type 6,6 Premiere Nylon. Kings Road (below right) solid-color cut-pile commercial carpet was introduced in 1983 and is still the cornerstone of the Bentley line. Kings Road has recently undergone a color update and is available in 138 colorways, 72 of which are brand-new. 800/423-4709. Bentley Prince Street, City of Industry, Calif. **CIRCLE 220**



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Colors

Belden Brick is available in a world of colors including soft whites and creams, golden buffs and dusty tans, delicate pinks and cinnamon reds, chocolate browns, pewter grays and coal blacks. With so many colors to choose from your options are truly endless. Here is a small sample of over 200 color ranges, 13 textures and 16 different sizes.



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More sizes mean lower wall costs. With as many as sixteen different sizes to choose from Belden has the size you need. Plus, Belden has made thousands of special shapes to provide special details for individual projects. Need an "impossible" shape for your project? Then call Belden Brick and learn how the impossible can become reality.



Textures

Belden Brick offers thirteen different textures that range from silky smooth finishes to rugged randomly textured styles. Each texture can make its own distinctive contribution to the visual impact you seek.

New Products Contract Carpet

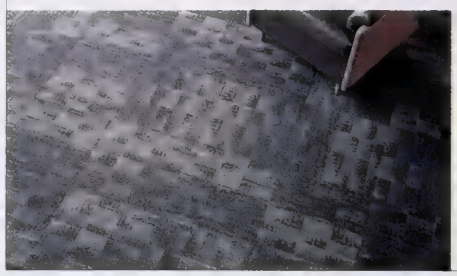
▼ Blooming broadloom

All 12 colors in Lees Colorburst broadloom carpeting feature a space-dyed yarn designed with either bright primary colors or jewel tones that pop randomly from complementary backgrounds. Colorburst, which may appeal to specifiers in markets from education to retail, is offered in both broadloom and 6-foot, and utilizes the Lees Duracolor patented stain-resistant dye technology. The collection also features the Lees new Unibond RE backing system, which has been certified as containing 20 percent postconsumer recycled content. 336/379-2000. Lees, Greensboro, N.C. **CIRCLE 221**



▼ Complexity of the carpet

Collaborating again with designer Jhane Barnes, C&A Floorcoverings has introduced Chaos, a new geometric design for carpet tile. Drawing on Barnes's expertise in mathematically based design, Chaos in based on the principles of Chaos Theory and fractal mathematics. "Chaos is an abstract geometric that becomes almost organic when installed in a totally random manner," explains Barnes. 706/259-9711. C&A Floorcoverings, Dalton, Ga. **CIRCLE 222**

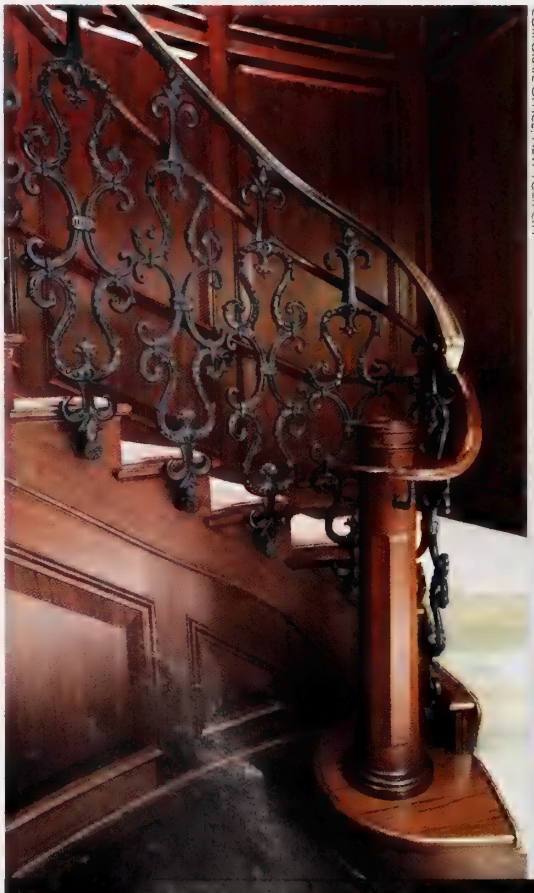


► Carpet for clumsy people

The Mohawk Group's EverSet Technology carpet-protection system alters the chemistry of any nylon fiber to make it resistant to spills such as betadine, mustard, and fabric dye. While these stains ordinarily require the use of special cleaning agents, they can now be cleaned with nothing more than water. In addition, the technology does not hinder the colorfastness of the fibers. 800/554-6637. The Mohawk Group, Kennesaw, Ga. **CIRCLE 223**



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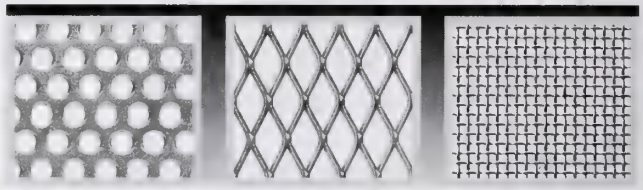
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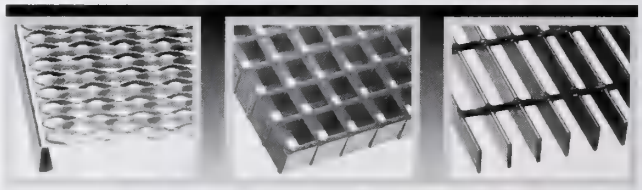
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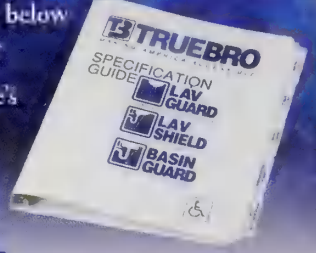
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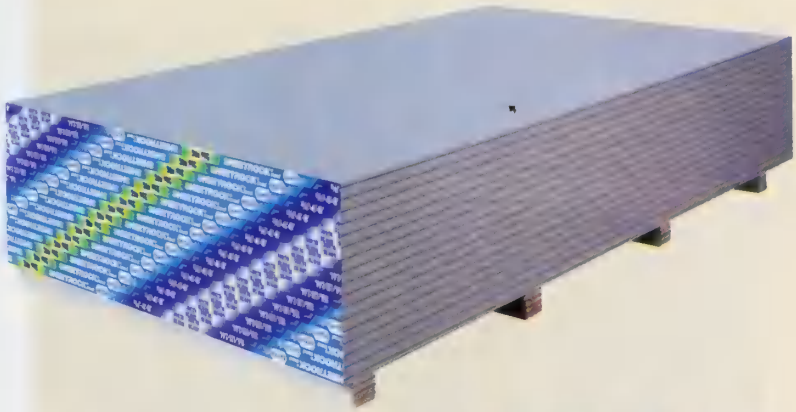
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Product Briefs



◄ Organically tanned

Available in 42 colors, Terraverde leather is organically tanned using a chrome-free process with a water-based semi-aniline finish. The tanning process results in low environmental impact, brighter colors that are consistent from batch to batch, and an overall "better hand." The cleanliness of the process also allows necessary chemical treatments (such as fire retardants) to adhere to the structure of the leather. 800/668-9318. Nienkämper, Toronto. **CIRCLE 224**



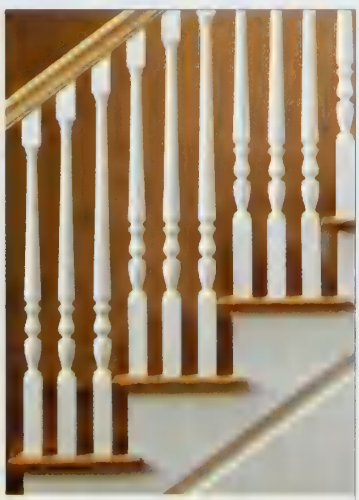
Product of the Month Humitek Gypsum Panels

After studying the issue from a variety of perspectives, USG has decided that the key to minimizing mold and mildew growth is to select the most practical ingredient to remove from the three elements that create the problem: mold spores, the nutrients they feed on, and moisture. While mold spores are everywhere, and even common dust can be a food source, moisture control arose as the answer. USG's first major product launch for 2003, Sheetrock brand Humitek gypsum panels have a noncombustible, moisture- and mold-resistant gypsum core that is encased in moisture-resistant, 100 percent recycled blue-face and brown-back papers. The Humitek line is designed specifically for use in residential and commercial interior areas such as basements, garages, and bathrooms (although not for tub or shower surrounds), elevator shaft walls, and areas near air-handling units. USG emphasizes that the panels are to be used as just one part of a comprehensive approach to controlling the problem. 800/USG-4YOU. USG, Chicago. CIRCLE 225

► A day at the playa



The Del Mar Collection, from Unika Vaev, brings a Latin sensibility to the contract market. The Del Mar Collection is comprised of Balcón, a cotton/polyester fabric in a vibrant pattern reminiscent of filigree wrought-iron work; El Paseo, a subtle broken double stripe suggestive of pathways that is 92 percent wool; Playa, a rich solid blend with a soft hand; and Parasol, a cotton/rayon blend in a rattanlike pattern with an interweave of color and texture. Even though the Del Mar Collection explores new color combinations, all the fabrics coordinate with the balance of Unika Vaev's existing products. 800/237-1625. Unika Vaev, Taftville, Conn. **CIRCLE 226**



▲ Proper alignment

Crown Heritage Stair Company has developed a patent-pending stair system that precisely aligns standard balusters with the rake of the rail and the tread—something previously unavailable in a 34" rake rail height. The system provides a solution to the stair-system industry's problem of uneven alignment, which emerged from a change in building codes. 336/667-5976. Crown Heritage, North Wilkesboro, N.C. **CIRCLE 228**

▼ Modern gazebo

A pavilion from Richard Schultz Design will be in production this fall for residential and commercial applications. The basic module is a 10' square structure made of bead-blasted stainless steel. The module can have additional columns and top beams added as required. Pleated vinyl mesh shading curtains designed to operate on a stainless-steel cable will be available for the top or any of the sides. 215/679-2222. Richard Schultz, Palm, Pa. **CIRCLE 229**



► No pins or holes needed

VT Industries is now offering cross-corridor wood doors that meet positive-pressure fire-door standards without having to install thermal pins or drill holes into floors. The cross-corridor wood doors meet approval as long as they are manufactured with a new mineral core from Georgia Pacific, Firestop stiles and rails, and follow the procedures used to construct the original test doors. 712/368-4381. VT Industries, Holstein, Iowa. **CIRCLE 227**



Product Briefs



▲ Shades of the seaside

Conrad introduces DesignerLine, four new custom handwoven window shades in a range of modern neutrals inspired by the sea. Each shade is handcrafted of continuous strands of natural wood-pulp fibers to customer size specifications. Shell is a light neutral shade, washed with subtle tints of rose and sandstone; Starfish is a sun-bleached brown highlighted with notes of honey and gold; Seagrass (above left) is a classic neutral that combines taupe with undertones of weathered green; and Moss is a soft, dusky green (above right). 866/426-6723. Conrad, San Francisco. **CIRCLE 230**

► Complementary roofing

In order to help create a "main street" shopping environment in this Bowie, Maryland, town center, six complementary Pac-Clad colors were utilized, including Copper Penny, Hemlock Green, Slate Gray, Forest Green, Terra-Cotta, and Colonial Red. More than 50,000 square feet of Petersen's Snap-On Panels were installed. The panels are produced in factory-formed lengths of up to 55 feet. 800/323-1960. Petersen Aluminum Corporation, Elk Grove Village, Ill. **CIRCLE 231**





◄ Complete building system

The performance of AdvanTech flooring is now available in a complete building system. Huber introduces a new AdvanTech Building System that includes the manufacturer's signature flooring, rim board, and sheathing and the all new I-joists available in two series. All components are covered by 50-year limited warranties. 800/933-9220. Huber Engineered Woods, Charlotte, N.C. **CIRCLE 232**

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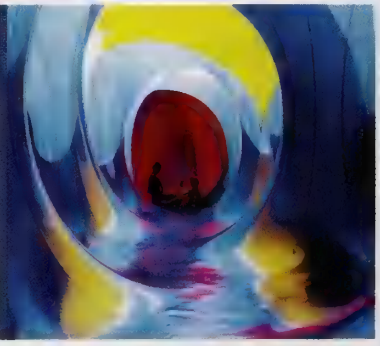


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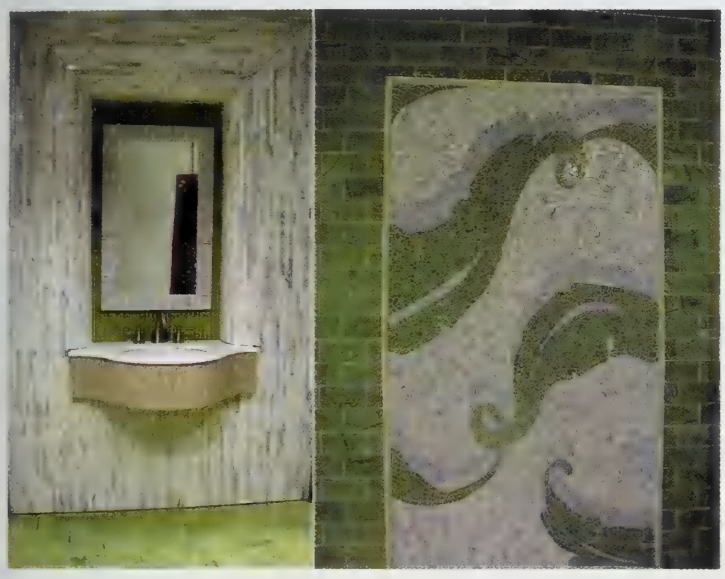
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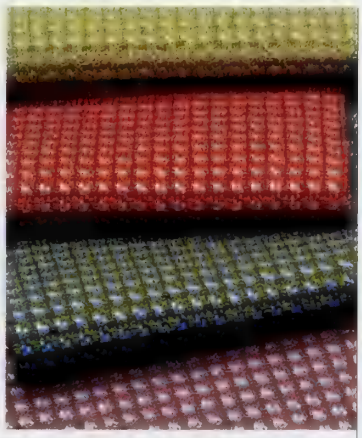
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▼ American-made mosaics

Exmore, Virginia–based New Ravenna Mosaics' line of hand-fashioned, museum-quality mosaics has been extended with a new line of topical, contemporary repeating patterns that are applied to tabletops and vanities as well as horizontal and vertical surfaces. Shown here are the new Tatami (below left) and Banana (below right) designs. New Ravenna customers can choose custom designs from the Sara Baldwin Design Studio or select existing designs, borders, and field tile from the company's catalog in more than four dozen colors of marble. 757/442-3379. New Ravenna Mosaics, Exmore, Va. **CIRCLE 233**





▲ Get a good stretch

The six new Action Fabrics textiles from Maraham marry the casual aesthetic of high-fashion sportswear with performance, including high-abrasion resistance. As three-dimensional polyester knits, the new Action Fabrics are characterized by a two-way stretch and a pliable construction that allows for a fitted appearance on the most challenging forms. Select patterns include postindustrial recycled content and flame retardance. 800/645-3943. Maharam, New York City. **CIRCLE 234**

▼ More secure exteriors

Enhancing security while protecting aesthetic values has become a significant challenge for designers. The Annapolis bollard, a first from Landscape Forms, was designed to complement the company's site furniture. The steel bollard offers low-level lighting and features a replaceable polyethylene sleeve that protects the structure from dents and scratches. 800/521-2546. Landscape Forms, Kalamazoo, Mich. **CIRCLE 235**



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Rakks wall-mounted shelving at Sweet & Associates Modern Furnishings, Cleveland, OH
Fixture Design: Christopher Hixson

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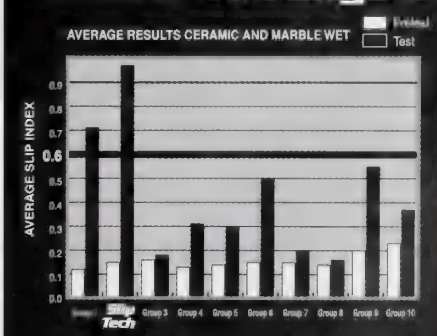
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Product Literature

Revamped brochures

AGI recently revamped brochures of several of its most popular furniture lines for the health-care and business markets. The Flex and Briar product brochures detail the collections' ergonomic features—designed to offer a shortcut on the road to recovery. Other new material includes product brochures with new photography for the Grand Salon and Zylo collections of seating options. 800/424-2432. AGI, High Point, N.C. **CIRCLE 236**

Vanity and cabinet catalog

The Furniture Guild introduces the new *Vanity Flair 2003 Catalog*, a showcase of more than 50-pages of the company's complete offering of individually crafted furniture for the bath and kitchen. More than 40 styles of vanities and cabinets are displayed, ranging from casual country to contemporary to formal European classic designs. 888/479-4108. The Furniture Guild, Canton, Ga. **CIRCLE 237**

Interactive molding CD

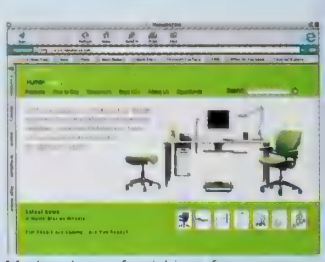
WindsorONE now offers an interactive CD-ROM showcasing the company's entire molding product line, complete with product specs and CAD drawings. 888/229-7900. WindsorONE, Windsor, Calif. **CIRCLE 238**

Tile and stone catalog

Walker Zanger's new full line *Stone & Tile Catalogue* includes 284 pages of collections of handmade ceramic tile, terra-cotta, metal, stone tile and slabs, mosaics, and glass. The catalog's high-quality photography makes it graphically strong enough to double as a coffee-table book. 818/504-0235. Walker Zanger, Sylmar, Calif. **CIRCLE 239**

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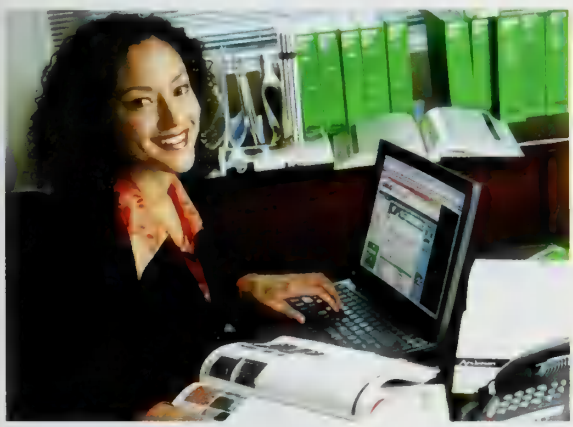
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Product Literature

Period-authentic fixtures

Rejuvenation, a manufacturer of made-to-order period lighting, has introduced 73 new products in its *Lighting & House Parts 2003 Resource Guide*. The *Resource Guide* enables readers to explore more than 100 years of old-house culture through the lens of period lighting and hardware. It showcases six major collections of period-authentic light fixtures, including Period Basics, Early Eclectic, Historic Revival, Arts & Crafts, Colonial Revival, and Modern America. Rejuvenation also offers house parts (door sets, cabinet pulls, hinges, and bathroom hardware) to complement its light fixtures. 888/343-8548. Rejuvenation, Portland. **CIRCLE 240**

30th birthday CD

To celebrate its 30th anniversary, U.S. Tile has developed a CD demonstrating the company's growth and roofing product offerings through the past 30 years. U.S. Tile claims to be the largest producer of authentic clay roofing tile in the nation. 800/252-9548. U.S. Tile, Corona, Calif. **CIRCLE 241**

Ceramic tile catalog

The second edition of Pratt & Larson Ceramics' 24-page color catalog gives an overview of its handcrafted tile line. Four glaze lines and 14 decorative-style lines are showcased, as well as metallic specialty glazes, mosaics, architectural trims, and a wide range of field sizes and shapes. 503/231-9464. Pratt & Larson Ceramics, Portland. **CIRCLE 242**

Door fabrication software

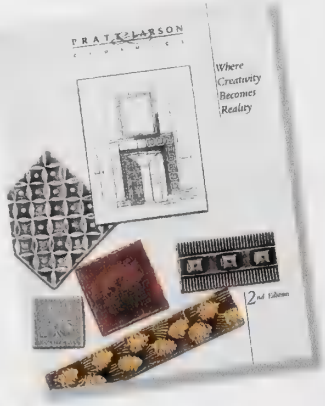
Coastal Industries has introduced the CrystalBall 2003 version of its software system. The software allows Coastal's distributors and fabricators to configure, design, and customize a product application in a real-world, user-friendly environment. 800/874-8601. Coastal Industries, Jacksonville, Fla. **CIRCLE 243**

Estimate roofing energy costs

The National Roofing Contractors Association (NRCA) has released RoofWise Version 2.0, a software application that provides an interactive, graphical method of constructing virtual roof assemblies to evaluate thermal efficiency and proper vapor-retarder placement, as well as approximate annual energy costs. It is available for $50 to members and $75 to nonmembers. 847/299-1183. NRCA, Rosemont, Ill. **CIRCLE 244**

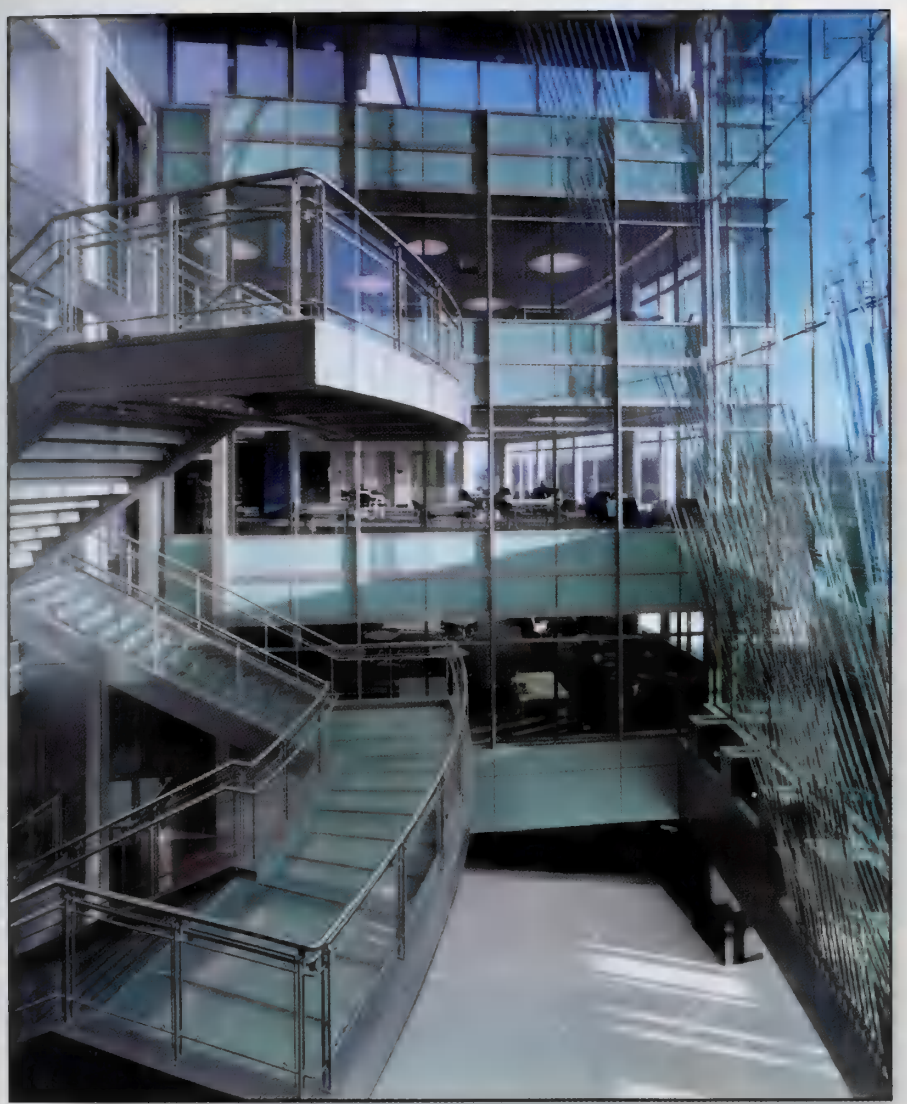








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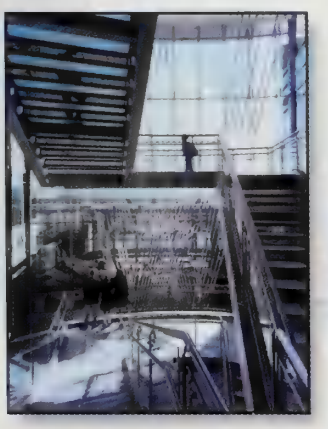


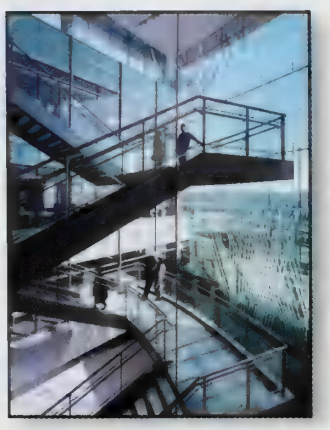
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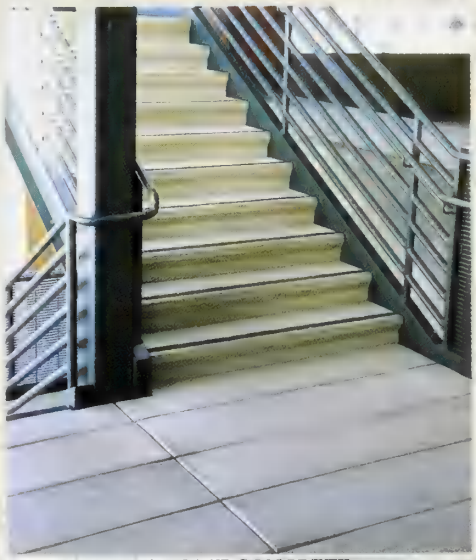
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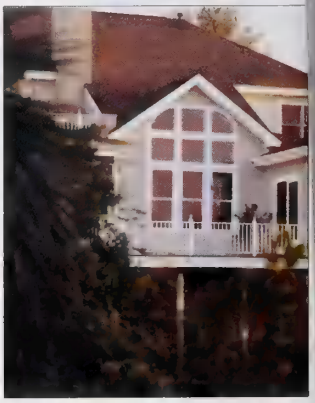


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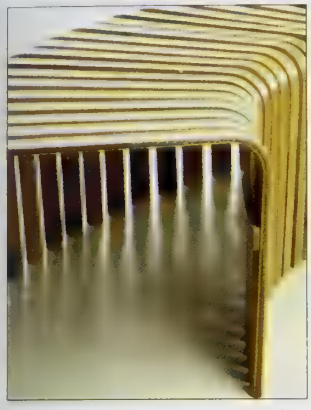
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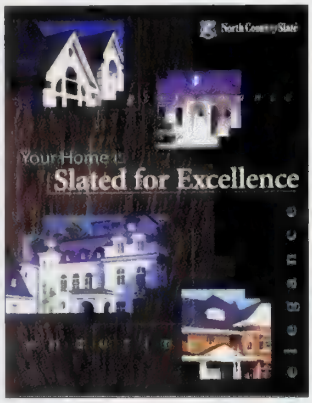


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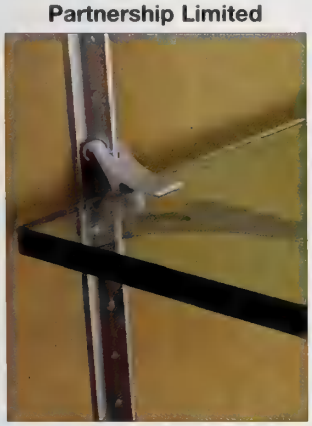


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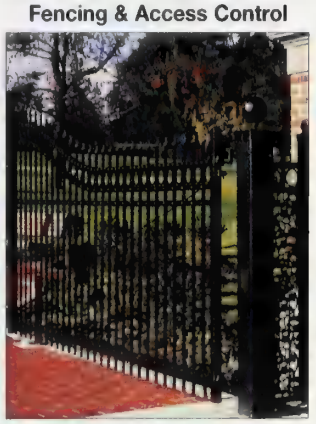


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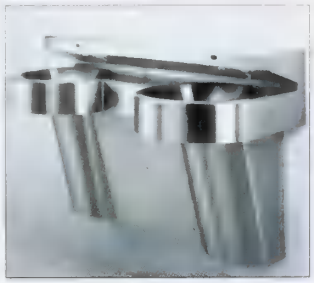
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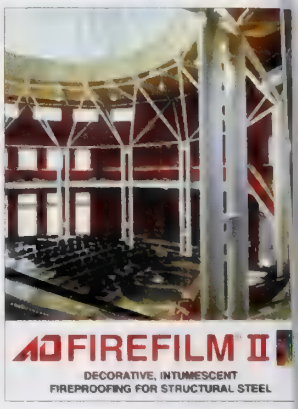


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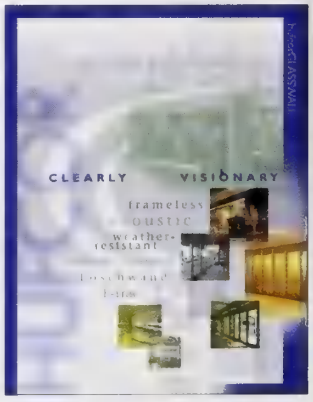


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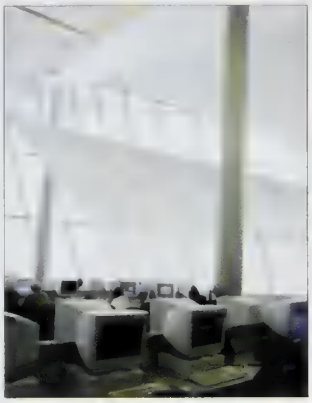


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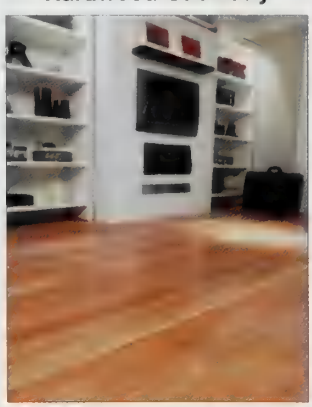


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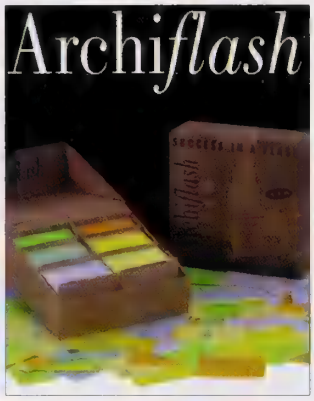


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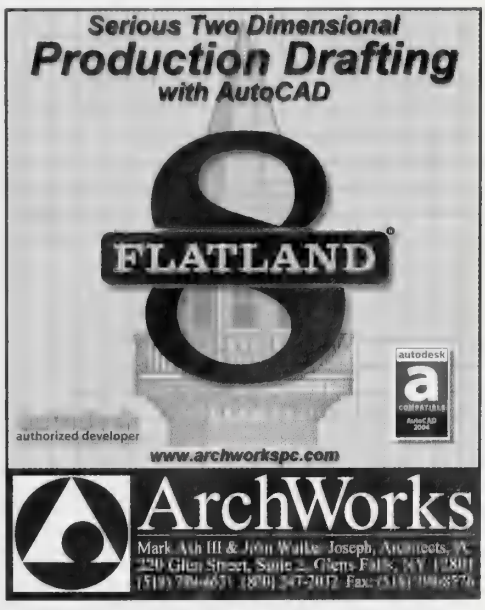
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Variations on an enigma: Nathaniel Kahn's new film revisits his famous father

Interviewed by Leslie Yudell

Filmmaker Nathaniel Kahn's most recent project, My Architect, *is a feature-length documentary about his father, the architect Louis I. Kahn. Conceived as a journey of filial discovery, it is both a moving tribute to a great artist and a candid portrait of a complex, elusive man. The film premiered last March at the 32nd New Directors New Films festival in New York City and is being distributed theatrically in the U.S. by New Yorker Films; it will open at the Film Forum in New York on November 12 (for more information, including a schedule of screenings around the country, go to www.myarchitectfilm.com).*

Q: *What did you learn about your dad from making this film?* My father died when I was 11. My early vision of him was based on my experience as a little boy and was very limited. I remember a warm and loving man, but I also knew he had a bigger world, from the amazing stories he told me about it: of India and Bangladesh, of tigers, of people who built buildings carrying baskets on their heads. For a child, it was intoxicating. But in making my film, I discovered much that I didn't know before—about his struggle, his persistence, his conflicts, his achievements. He went from being a mythological character to being a man.

Your dad had a very unconventional personal life, which he kept secret. Do you have any misgivings about revealing it? My film shows that I have great respect for my father, but I also have questions about the choices he made. I tried not to judge him. As he said, "You can be critical of someone, but you should never judge them." My father was a great mystery, and I didn't want to dispel that but to examine it. That's why I designed the film as a journey: You end up with a multifaceted impression of Lou Kahn that preserves his complexity.

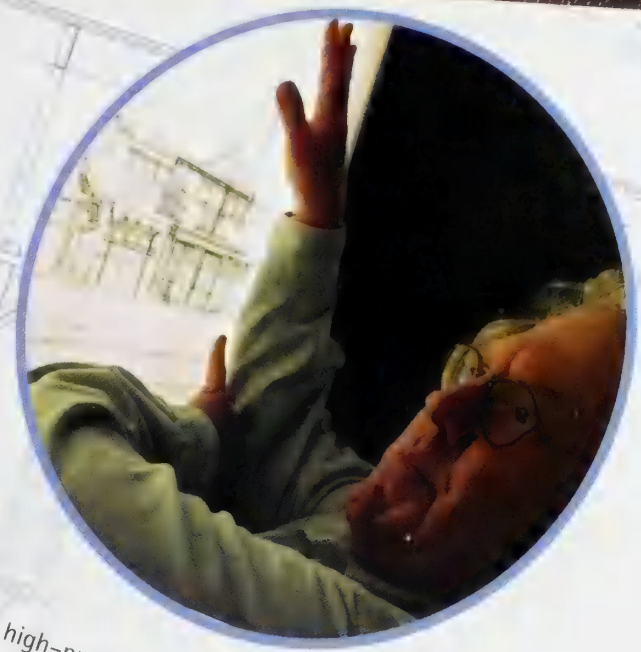
What were the challenges of filming your dad's buildings? The big challenge was, how do you get the emotional power of these buildings into a movie? I found it's not by filming good angles, but by moving through the space of the buildings with people who had a real connection to Lou, using the buildings as dramatic settings. And you have to be willing to wait for a building; you can't just show up one day and say, "We're going to do Kimbell today." I went to the site and stayed for a while, then captured the buildings in different conditions. I used time-lapse photography to show how the buildings changed over time.

Which building do you admire most? They are all equally interesting, and in different ways. In filming, each required a very specific situation; we had to search for solutions to convey the character of each one. This revealed to me how much depth of imagination went into their design. They really kept me on my toes as a filmmaker. I was also surprised by how the buildings seem both big and small at the same time. Lou Kahn's sense of scale is astonishing and mysterious. I felt it was essential to capture this: How do you make something feel both monumental and intimate? I hope we succeeded.

Photographs © Louis Kahn Project; Harriet Pattison (left and middle)

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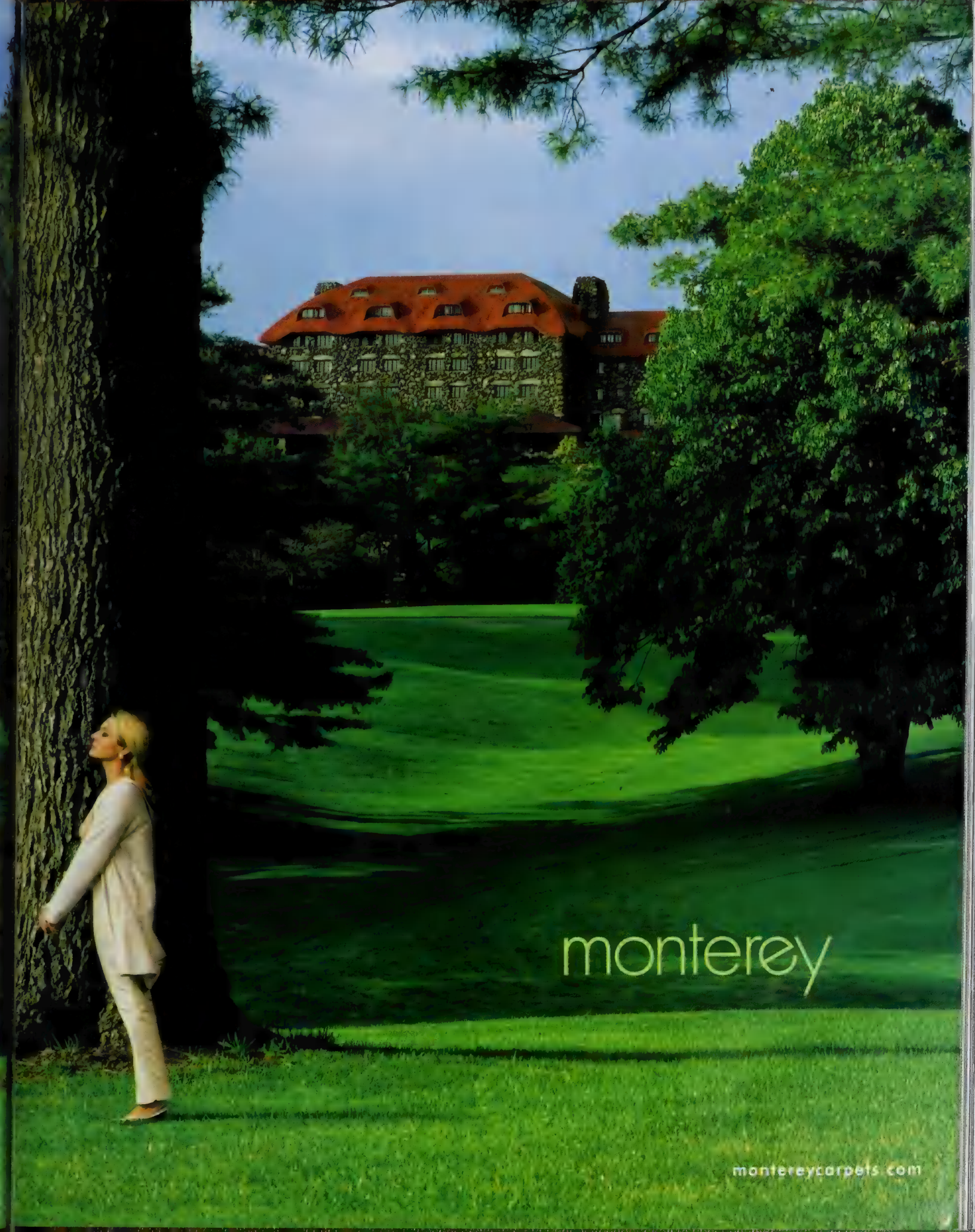
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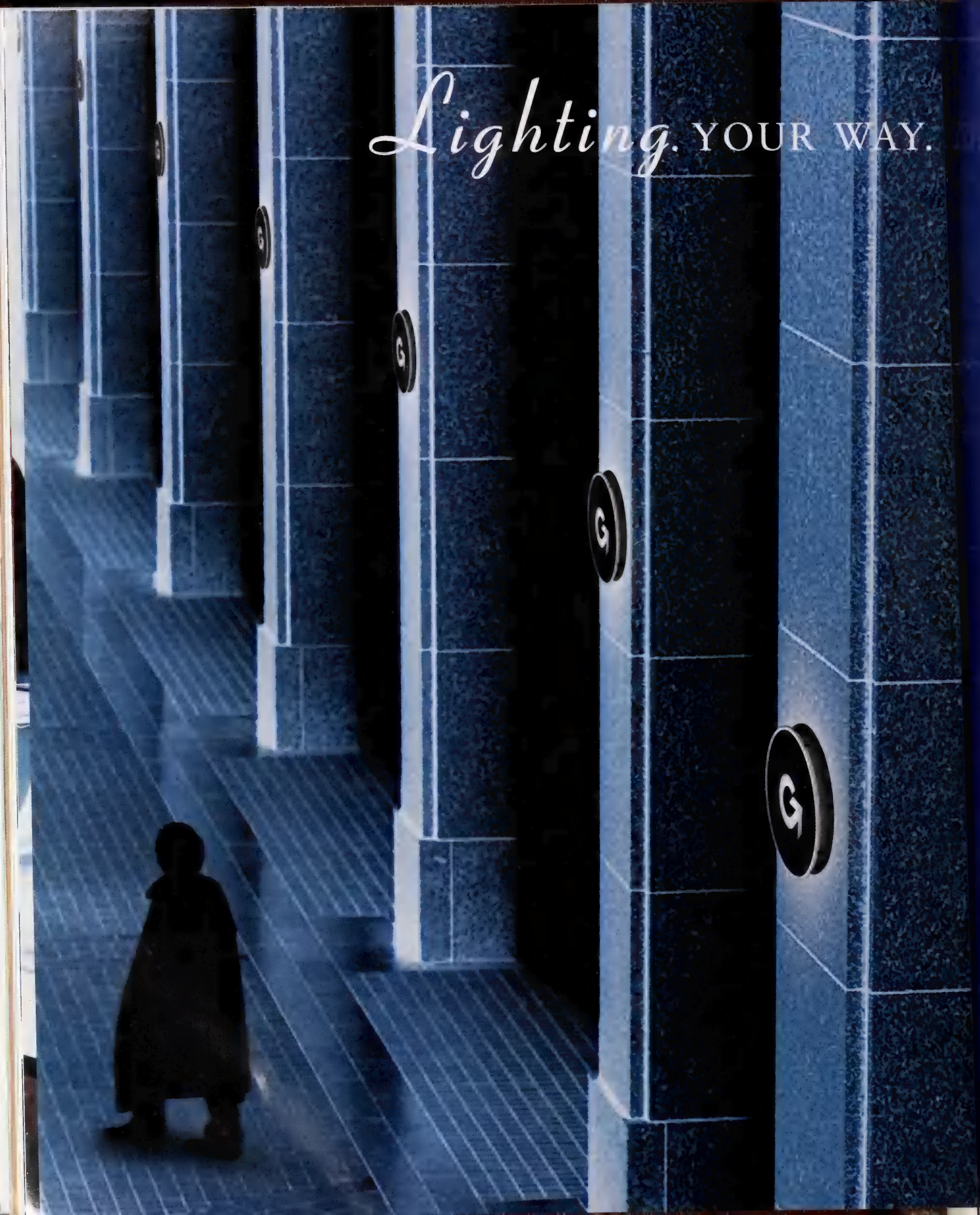
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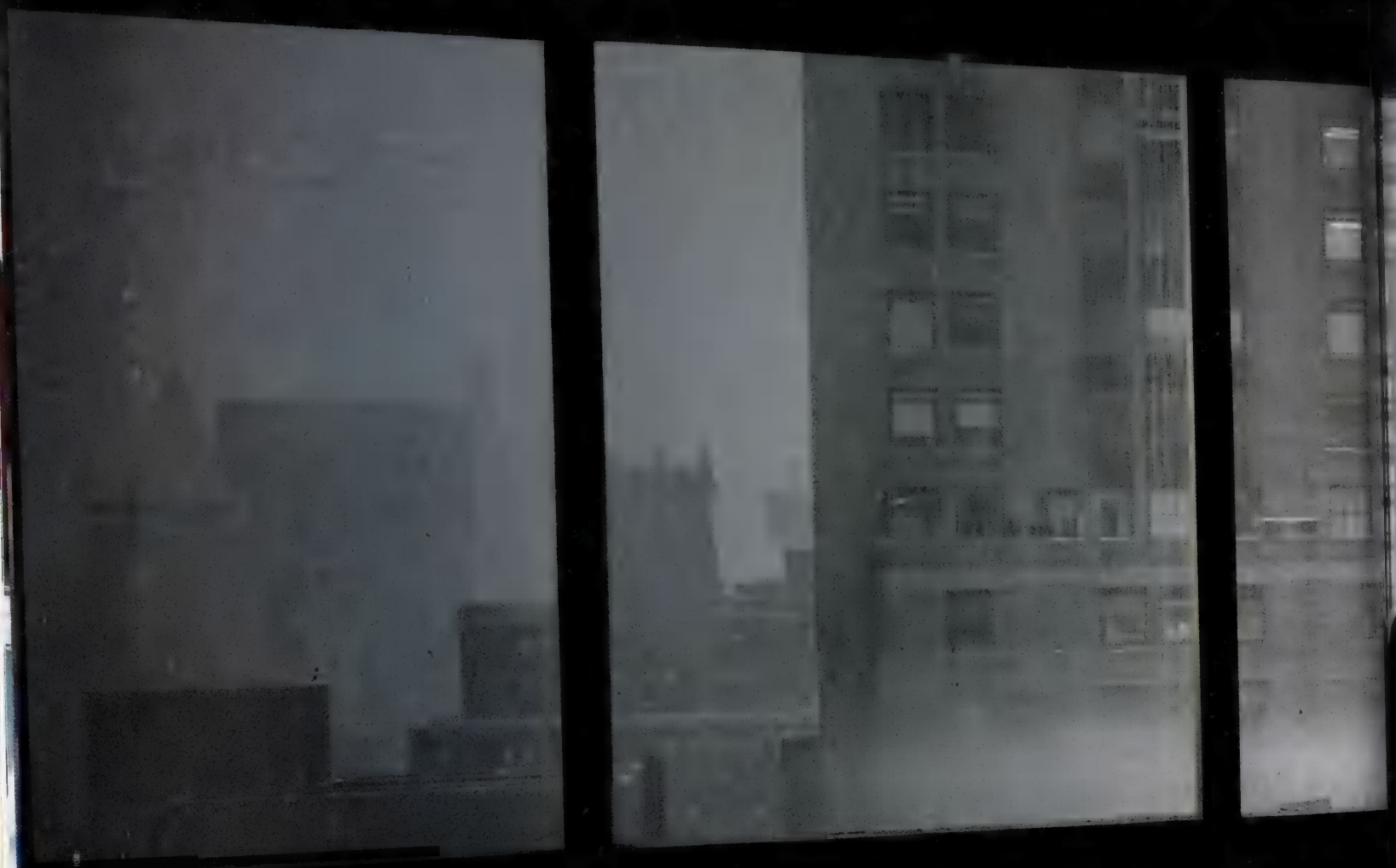
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07.2003



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Right: *Fisher Performing Arts Center at Bard College, by Gehry Partners. Photograph by Peter Aaron/ESTO*

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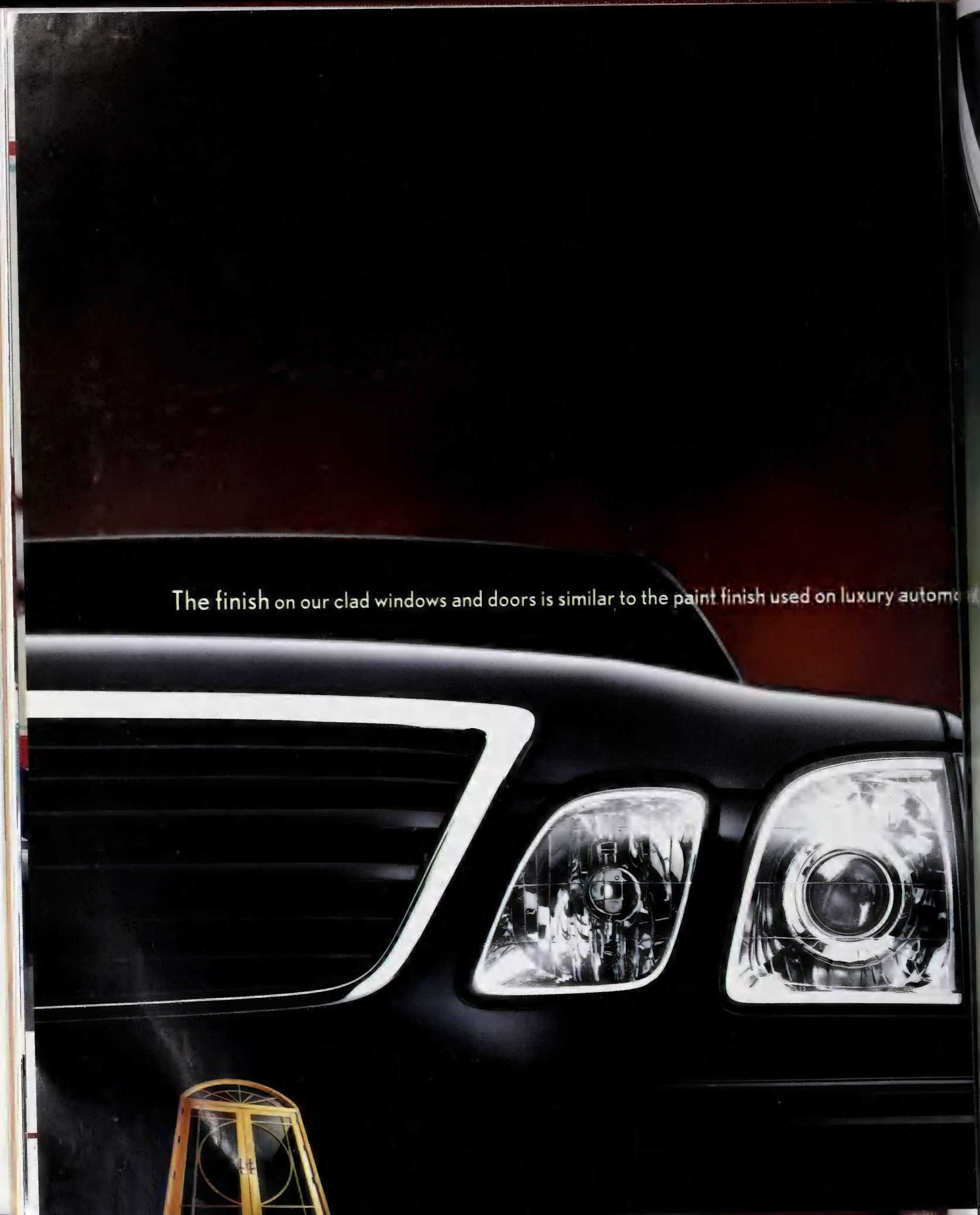
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Project Portfolio

Blast from the past. Check out our online super size offering this month of the Price Tower building with *Record*'s original 1956 coverage, including: an essay on skyscrapers by Frank Lloyd Wright, the original architect, and photographs of the original interiors. PLUS–Experience a dramatic slide show presentation by Roger Shepherd of the Irish Hunger Memorial.

World Trade Center

Rebuilding News. Get the latest updated coverage on the rebuilding process with news and insight.



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In the Cause of Architecture

Explore our online interactive feature on Edward Durell Stone, including: an essay on preserving Modern architecture; excerpts from Stone's writings describing the Conger Goodyear House on Long Island; photos of the house; biographical history on Stone and previous coverage of his projects–we have it all.



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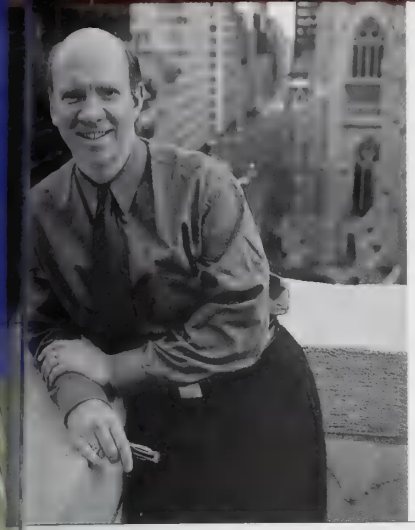
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Otherworldly, yet familiar

Editorial

By Robert Ivy, FAIA

Standing in the dust of the Forum Romanum at the spot where all roads lead, surrounded by marble shards, echoes from the stones, like voices, speak. Time and history elide, from 750 B.C. until today. Despite generations of neglect and active pilferage at the hands of Renaissance popes, who adorned the face of a burgeoning new Rome with Imperial marble, much remains. Pavers still mark the Via Sacra, the sacred way, through the valley. From the Arch of Titus, a succession of remnants marks the path: the Temple of Romulus, the Temple of Vesta, the Basilica Julia, the Arch of Titus—a captured glimpse of a civilization.

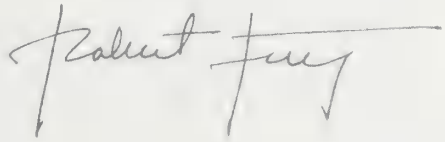
Here, an aedicula with two Ionic columns marks the House of the Vestal Virgins; there, three Corinthian columns on a plinth, the Temple of the Castores—the DNA of another civilization, the architecture of which can still be read, reverberating with us after 2,000 years. Physical facts provide the pattern, erupting intermittently with texture, scale, form, and rhythm, overlaid and smoldering with two millennia of intangibles—culture and time, history and memory and blood. Despite its obvious decay, the Forum attracts us with both otherworldliness and familiarity, and we bathe in the shock of recognition of who we are and who we have been.

Familiarity at the Forum comes from recognition because subsequent eras have replicated the conventions of the Classical past in institutional and residential buildings. Sir Banister Fletcher prepared us for this encounter. Yet part of our comfort derives from what earlier writers would have characterized as somatic projection, or empathy. As any student of architectural history knows, the forms and scale of trabeated architecture have direct relationships with the columnar human body, which we sense even in ruined structures.

Beyond the well-trod intellectual roads lie other lessons outside the aesthetic. The entire Forum site rests between the Velia, the Capitol, and the Palatine hills on a willful act of early engineering. Had the settlers not drained the formerly swampy burying ground into an enormous sewer, the Cloaca Maxima, further development after 550 B.C. would have ceased. Early structures, whose forms had been directly appropriated by the Latins from the Greeks, quickly grew into the uniquely Roman: Roman technological advances produced pozzolana, a cementitious binder that has hardened like iron, and near-perfect brick, permitting forms the world had never seen, including the broadly vaulted basilicas and baths—immense, capacious structures like the Basilica of Maxentius that continue to confound us with their spatial power and structural acumen.

Following Constantine's conversion, recharged with fresh spiritual energy, the Roman basilica morphed into something new, and the drama proceeded. Despite our preconceptions, Rome never stood still, so never fell. Instead, Republic shifted to Empire, which was sacked, and changed. The Regia became a meadow, while the city lived on. In fact, Roman energy lay not in the forms themselves but in their transformation: Near Eastern and Egyptian to Greek to Roman to our own multivalent world. It is in that spirit, which acknowledges the past and recalls history without becoming enslaved by its outward signs and symbols, that most contemporary architects build. Remembering, but moving on, is how we write about architecture.

With that same sense of challenge, we are embarking on a new way of presenting this architectural publication. Beginning with the July issue, in a bold new experiment worthy of the Romans, we offer all of ARCHITECTURAL RECORD *delivered electronically. Thanks to a new software called Zinio,* RECORD *will all be there—the full page, backlit, glowing, but conveniently present in your laptop. And unlike most Web-based magazines, you will be able to zoom on an image, search the material, and archive it. Time, Rome, and* ARCHITECTURAL RECORD *move on.*

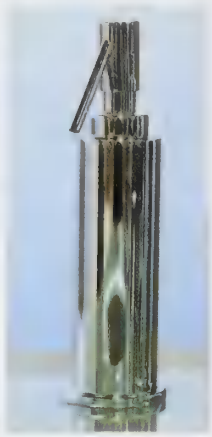


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Letters

Where is Classicism now?

As most students of architectural history know, the fortress of early-20th-century Modernist ideology withstood challenge until the 1960s, when various practitioners and polemicists began to question its assumptions and theoretical underpinnings through both practice and critical inquiry. This skepticism evolved into the so-called Postmodernist sensibility, wherein historicist architectural vocabularies regained acceptability, including a resurgence of interest in the Classical tradition.

In 1968 the organization Classical America was formed for the purpose of breaking the Modernist stranglehold and replacing it with a renewed Classical aesthetic. By the 1990s, several more organizations had sprung forth, and one accredited architectural school—the School of Architecture at the University of Notre Dame—launched a curriculum devoted to the propagation of Classical principles.

The 1990s was an especially fertile decade for proponents of Classicism. Great private wealth generated by the high-tech boom fueled an explosion of building. Dozens of Classically minded firms took shape and grew in response to the market demand. In the residential sector, at least, it seemed like traditionalism had completely dominated the landscape, whereas homes designed in Modernist idioms often went begging and unsold.

Today the echoes of a roaring economy are only faintly heard, and a number of Classical firms have recently become more subdued. While it would be easy to ascribe this contraction to the economic slowdown, it may be equally the harbinger of a sea change in the architectural climate.

Certainly, there are many positive aspects to what transpired. Many now recognize that Classicism, our civilization's defining architectural system, remains irrefutably our cultural DNA. Then, too, the return to Classical ideals has restored a humanist perspective to the architectural dialogue. This perspective provides a welcome antidote to the profession's taste for mechanistic aesthetics, and the dehumanized, often banal environments that stem from this attraction.

Traditional sensibilities, of which Classicism is one offshoot, have been particularly manifest in the field of town planning. New Urbanism, a humanistic and classically derived approach to the philosophy of the human habitat, evolved in parallel with the Classical resurgence. But whatever one's position on the subject, New Urbanism has helped us confront the issues of sprawl and other suburban dilemmas on a national level. Concomitantly, a renewed focus on civic ideals can be linked to a consciousness that the physical setting of public life has degraded in the Modern era, in part due to Modernism's faltering effort to provide a viable language of civic expression. Nevertheless, looking at the portfolio of genuinely Classical and traditional projects generated over the past decades, however, one must acknowledge some deficiencies. One problem involves creativity. To what degree has late-20th-century Classicism explored fresh avenues of architectural development? Relatively little, it can be admitted—certainly as compared with an enormously innovative period like the American Renaissance in the late 19th century, when Classicism was brilliantly reinvented in the face of new building types, construction technologies, and urban development patterns. Some will argue that the quest for novelty is a Modernist preoccupation, and a faulty one at that. But novelty is not the goal; relevance is. The characteristics of irrelevance are obsolescence and creative stagnation. The crisis of imagination afflicting Classicism is overshadowed by the even greater problem of a shifting cultural paradigm.



Resort houses in Rosemary Beach, Florida, by Alfonso Architects.

The simultaneous and ongoing impacts of the technological revolution, new demographic patterns, economic and cultural globalism, and a host of other novel conditions have transformed the world since the 1990s. While it is too early to tell how architectural production will respond to the altered cultural outlook, it is increasingly difficult to rationalize an undiluted Classicism under these circumstances.

For Classicism to survive and remain relevant, it should aim for a "new synthesis." Draw from the success of a resurgent Modernism, not the flawed Modernism of the fractured, blobular, or cultural-theoretical schools, with their jargoned pretense to disorder and brutalist celebration of the ugly. Nor need one rehash Postmodern excursions into irony and mannerism. Look instead to a thoughtful, visually sensuous Modernism of younger and lesser-known practitioners that is beginning to make itself felt. One mecca of the "new synthesis" is the resort development of Rosemary Beach, in the panhandle of Florida's Gulf coast, where more recently built houses on the north side of the main street indicate a noticeable shift to a more contemporary take.

These architects and others respond smartly to the criticisms leveled at the Modern movement by creating urbanistically responsible environments that human beings want to be in.

One last point directed to diehards in both camps: In some respects the conflict between Modernism and Classicism is misplaced. The real struggle is between good and bad design. Ninety percent of our country's built environment is created without the participation of design professionals, and it is those structures that will truly define our landscape in the years to come. If the greater good is the betterment of the world we build, then let us jointly find a way to achieve that goal in whatever form it can take.

—Donald M. Rattner
Studio for Civil Architecture
New York City

Corrections

In the June article about the AOL Time Warner Center [page 86], Ismael Leyva Architects should have been credited as the design architecture firm for the center's residences. In the June story about the Automated Trading Desk (ATD) [page 156], architect Niall Cain's name was misspelled, as was the name Myerberg. In May's Lighting Resources [page 345], the Annoncé line should have been referred to as a group of wall sconces. Also in May, the lighting consultant for the Oxbow School was Dan Dodt, and Bendheim Wall Systems supplied the Lamberts LINIT U-Profile glass used in the faculty house.

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Libeskind, Port Authority agree on transit hub; Environmental review process begins for WTC

Studio Daniel Libeskind reached an agreement with the Port Authority of New York and New Jersey ensuring that Libeskind will design the main hall of a new transit hub on the World Trade Center site. Libeskind has already secured a contract with the Port Authority to develop his master plan and design guidelines for the site, and has another with the Lower Manhattan Development Corporation (LMDC) to design the museum and cultural buildings.

The June 18 agreement came at a time of intensifying conflict among parties involved in the site. On May 30, *The New York Times* reported that Larry Silverstein, the developer who holds the lease to office space on the site, would not hire Libeskind to design the buildings he plans to erect there, citing concerns about Libeskind's lack of experience in designing tall buildings. The *Times* reported that Libeskind's plan would "inspire" any work done by whatever architect Silverstein eventually hires.

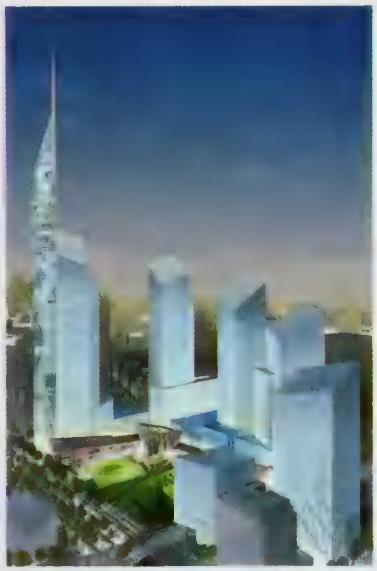
Such language worries the members of the Civic Alliance to Rebuild Downtown New York, a coalition of community groups brought together by the Regional Plan Association. On June 11, the Civic Alliance denounced plans to alter the design, specifically naming Silverstein and the retail developer Westfield Properties as offenders. Westfield has brought legal action against the Port Authority, claiming that Libeskind's design will not provide enough retail space of the type Westfield wants.

The Civic Alliance also released images (shown here) that depict the potential effects of a series of changes to the World Trade Center master plan. The images show the basic layout of Libeskind's plan with the sunken memorial site raised to ground level and surrounded by mundane glass-box skyscrapers of the heights that Libeskind specified. Another image shows a potential result of Westfield's legal wrangling, a crowded suburban-style mall.

Libeskind's agreement with the Port Authority encouraged the Civic Alliance. "It's a positive step, and we'll continue to monitor the process carefully," said Jeremy Soffin, a Civic Alliance spokesman.

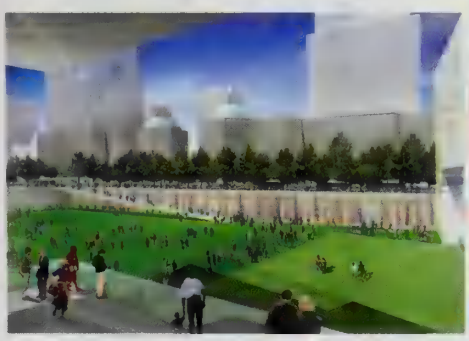
Kevin Rampe, the president of the LMDC, took issue with what he called the Civic Alliance's "erroneous" report. "The report contained a lot of misinformation that evinced no understanding of what we're doing in the process," Rampe told RECORD. "We've engaged in what is the most open and transparent planning process ever, at least for a project of this size. The LMDC has stood for architectural excellence from the beginning."

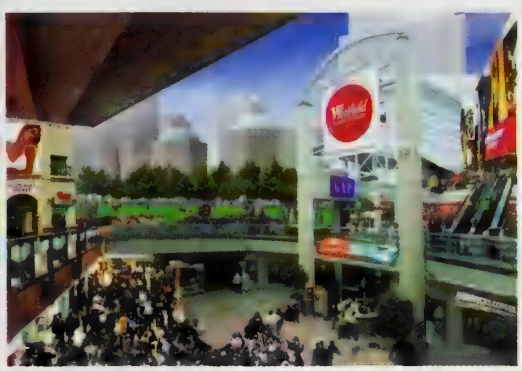
Meanwhile, the LMDC continues to work toward the ultimate goal of actually rebuilding. The group hopes to complete the environmental review process in time to begin construction in the summer of 2004. The LMDC will hold a series of community forums to determine how best to use its remaining federal funds. *Kevin Lerner*





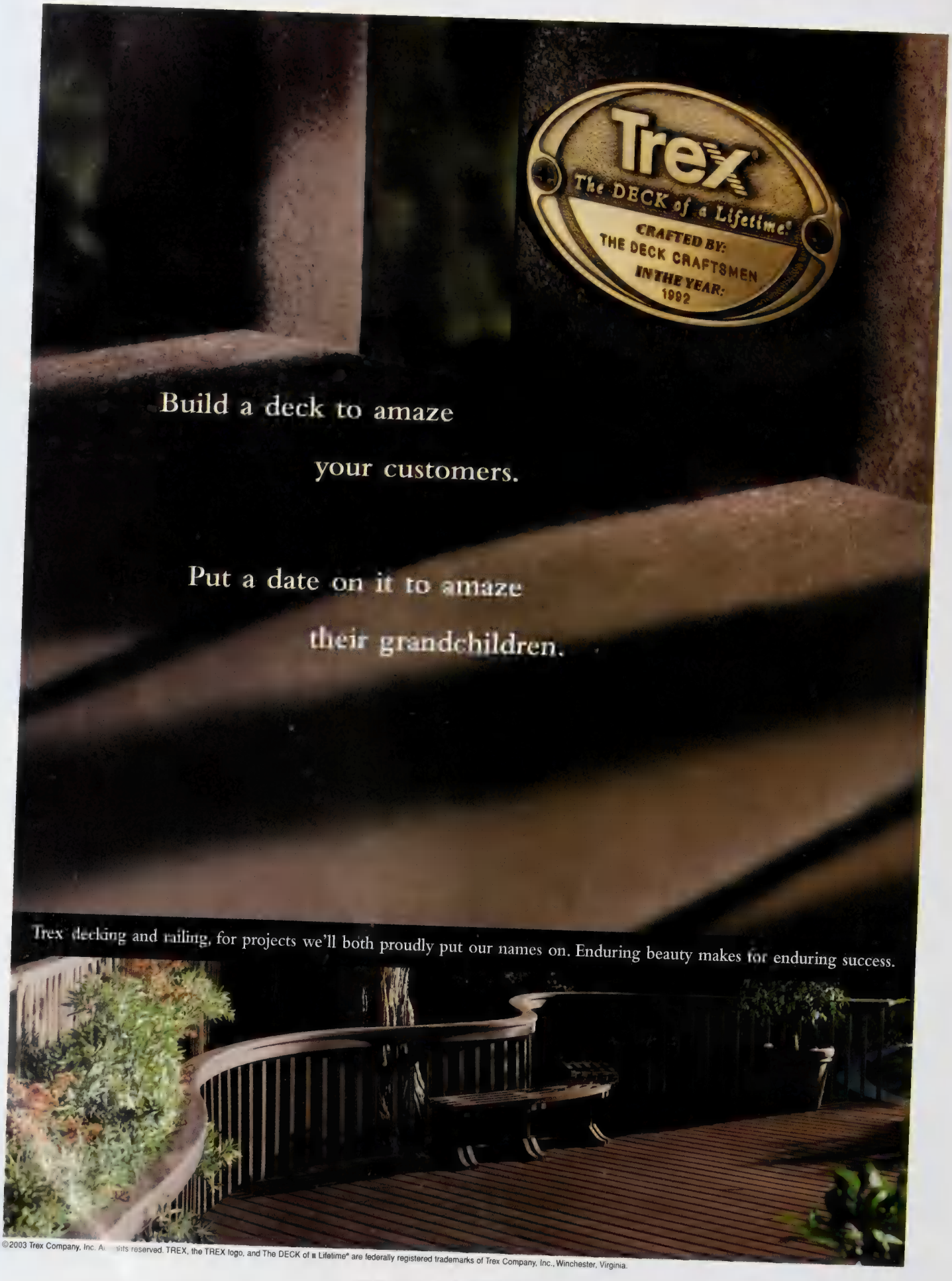
The Civic Alliance rendering (right) replaces buildings in Libeskind's design (above) with "mundane" office buildings.







Civic Alliance images (right two) show the possible effects of alterations to Libeskind's memorial site (above).



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U.S. Capitol Visitor Center progresses as overall cost increases to $373 million



The below-ground visitor center (section, top) will have a view of the Capitol dome through a skylight (above).

Excavation is well under way on the underground U.S. Capitol Visitor Center in Washington, D.C., as the estimated costs for the project continue to rise. In April, the Architect of the Capitol awarded a $144 million contract for completion of the facility, but the initial reference for bidders of that contract was $120 million. The overall cost is expected to top $373.5 million, far more than the $265 million estimated when the project was approved in 1999. Scheduled to be complete by the end of 2005, the project has been a major disruption to the east front of the Capitol building—Washington's Big Dig.

The costs increased, in part, because Congress approved $70 million additional funding for House and Senate office space and $38.5 million for enhanced security in the wake of the September 11 attacks.

The April contract was awarded to Manhattan Construction, a Tulsa, Oklahoma–based company that recently constructed the dome on the Oklahoma State Capitol.

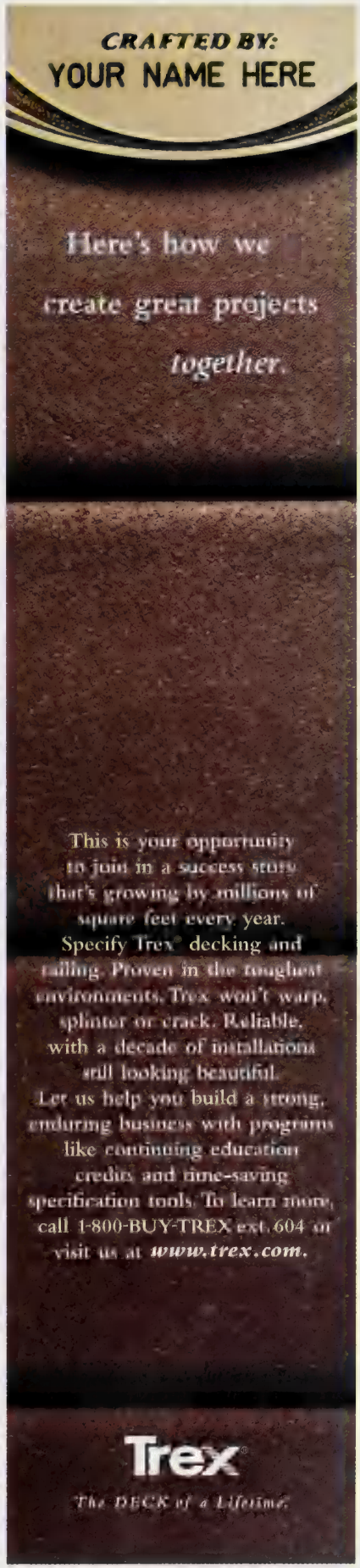
As excavation progresses, approximately 250 to 400 truckloads, or 2,500 to 4,000 tons, of dirt are hauled away each day. To execute the dig, 2,000 linear feet of a 70-foot-deep slurry wall (pictured, right) was constructed. The slurry wall has allowed the excavation to go on while not disrupting the Capitol building structure.



The 580,000-square-foot, three-level visitor center was designed by RTKL Associates, with D. Rodman Henderer, AIA, as principal in charge. The space will accommodate 3,400 visitors per hour, with a security checkpoint, exhibition space, gift shop, orientation theaters, and food service facilities. A film auditorium for the Library of Congress is included, as well.

Besides the costs, critics contend that, with some trees taken out, the dig and construction is disrupting the original Frederick Law Olmsted landscape. The East Plaza will be redesigned with respect to Olmsted's landscape plan.

John E. Czarnecki, Assoc. AIA



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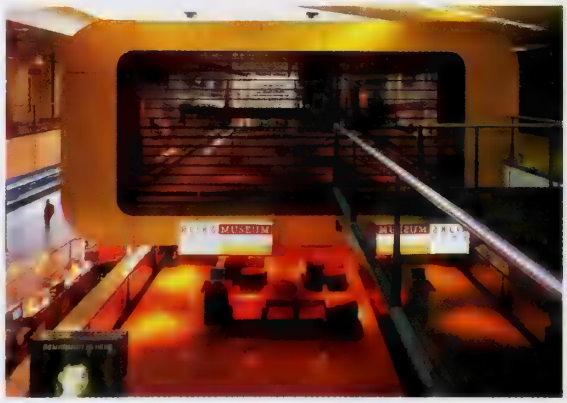
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Record News



A suspended, gold-and-black-framed box appears to float above the museum shop.

Rijksmuseum satellite brings art to Amsterdam's Schiphol Airport

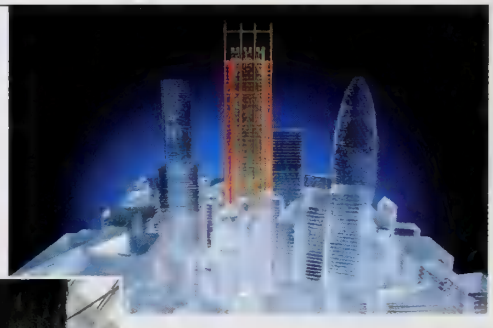
As the Rijksmuseum in Amsterdam launches a major renovation and expansion, a new satellite museum at the city's Schiphol Airport has brought works by Dutch masters, including Rembrandt, to the duty-free zone. Billed as the first permanent museum exhibition in the world to be set within an airport, the Rijksmuseum Amsterdam Schiphol was designed by architects Benthem Crouwel and opened last December.

A joint venture of the airport and the museum, the new exhibition space is situated behind passport control along a shopping corridor. A suspended, gold-and-black-framed box appears to float above the museum shop, designed by Studio Linse. Reached by a staircase, and with gold-colored louvers at each end, the 1,700-square-foot space imparts the feeling of being inside a shutterbox, or perhaps a frequent-flier sky lounge. For climate and security control, the paintings are set behind heavy glass panels on opposite sides of the space. With prominent seams in the reflective glass panels augmented by rather dim lighting, the installation has less the character of a museum than of a tourist curiosity. Still, showcasing fine art to travelers who are not required to pay admission is a marketing strategy that may attract more visitors to the museum itself.

In addition to the paintings on loan from the Rijksmuseum's permanent collection, the Schiphol venue will team with the Netherlands Institute for Cultural Heritage to showcase smaller exhibitions. *William Weathersby, Jr.*

Foster curates exhibition of tall building models

Norman Foster is the curator of *Sky High*, an exhibition of tall building models at London's Royal Academy, now through August 10. Foster has brought together an eclectic selection of 50 models. From pre-medieval Indonesia to 21st-century China, the exhibits cover a broad range of locations. *Sky High* marks a departure for the 235th Royal Academy Summer Exhibition, an annual opportunity for amateur artists to show their work. This is the first time architecture has occupied center stage. *Sky High*, which is in the Royal Academy's grand 19th-century lecture hall, is divided into two hemispheres: The models from East and West compete for attention on elevated plinths.





Models exhibited include a Dubai project by Sir Michael Hopkins (left) and a London project by Richard Rogers Partnership (above).

Some of the projects are established landmarks. Models of the Chrysler Building, the original World Trade Center towers, Mies van der Rohe's Seagram Building, and the spiral minaret of 9th-century Iraq, are all on display. The more interesting projects are lesser known, or have yet to be realized, including two wind towers designed by Foster himself. The Foster models propose towers that can generate their own power through the use of wind turbines that are either on rooftops or suspended between the towers.

A prototype weather-responsive tower from Munich, Germany, is on display. Designed by the Dusseldorf practice Ingenhoven Overdiek and Partners, the tower has hundreds of hypersensitive portholes punctuating its glass skin that close up in bad weather. *Adam Mornement*

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Record News

SOM designs world's tallest tower for Dubai developer

Skidmore, Owings & Merrill (SOM) wants to once again be recognized as the designer of the world's tallest building. Partner Adrian Smith and managing partner George Efstathiou, both of SOM's Chicago office, have developed a design for a $500 million Burj Dubai tower in Dubai, United Arab Emirates. The SOM design was selected as the winning entry in an invited competition held by Emaar Properties of Dubai. Emaar owns Dubai Bank, and its chair, Mohammed Ali Alabbar, is the Dubai government's director of economic development.

The *Chicago Sun-Times* reported that the tower would be about 1,900 feet tall. Pamela Kane, director of marketing for SOM's Chicago office, said the firm could "neither confirm nor deny" that reported height.

Smith described the design in a written statement: "The design of Burj Dubai is derived from the geometries of the desert flower, which is indigenous to the region, and the patterning systems embodied in Islamic architecture. The tower is composed of three elements arranged around a central core. As the tower rises from the flat desert base, setbacks occur at each element in an upward spiraling pattern, decreasing the mass of the tower as it reaches toward the sky. At the top, the central core emerges and is sculpted to form a finishing spire. A Y-shaped floor plan maximizes views of the Persian Gulf." The building will include mostly residential and hotel uses, but with office space, as well. Construction could begin later this year.



The Dubai tower could be the world's tallest.

Malaysia's Petronas Towers are the world's tallest at 1,483 feet each. SOM's Sears Tower in Chicago is 1,450 feet tall. *J.E.C.*

Sri Lankan architect Geoffrey Bawa dead at 83



Sri Lankan architect Geoffrey Bawa died at his home in the capital, Colombo, on May 27. As the country's foremost architect, Bawa (pictured here in 1990) integrated Sri Lanka's lush backdrop with contemporary architecture to create a prolific blend of local culture and modern design. He was 83.

Educated in English and law in England, Bawa returned to Sri Lanka, apprenticed for an architect and became qualified as an architect in 1957 at age 38. He worked first with Danish architect Ulrik Plesner, until 1967, then with engineer K Poologasundram for the next 20 years. Bawa went on to salvage the firm of Edwards, Reid and Begg, which became the most prominent firm in Sri Lanka. Bawa's designs for hotels, resorts, and government buildings provided new ideas for the tropical business atmosphere and drew added attention to tourism.

In 1978, the architect received his largest assignment, to design a new parliament building for the Sri Lankan government. His design combined traditional Sri Lankan and South Indian architecture with an international Modernist influence resulting in a series of copper roofs of varying heights shielding terraces that surge upward out of an artificial lake. Bawa designed Ruhunu University in the 1980s with a complex of pavilions and courtyards that merge the outdoors with enclosed spaces.

Bawa suffered a stroke in 1998 that left him paralyzed and unable to speak, but he continued to work from home with a small group of associates who followed designs that he had begun previously. In recent years, he completed the president's private residence and a hotel in Panadura. Bawa was honored in 2001 with the Aga Khan Foundation Chairman's Award. ***Caroline Mitgang***

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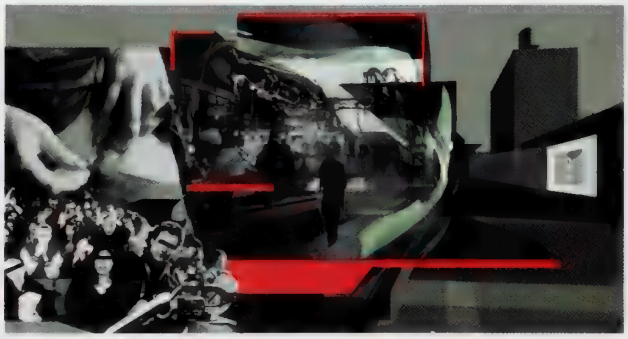
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The scheme *Black Market Crawler* has commerce functions in a boxcar.

High Line competition yields 4 winners

From a proposal that transforms New York City's High Line elevated rail line into a 1.45-mile-long swimming pool to another that envisions it reclaimed by nature, the four winning designs of the "Designing the High Line" competition represent the wide array of ideas proposed in the 720 entries submitted. The competition was sponsored by Friends of the High Line (FHL), a nonprofit organization that has championed railbanking the unused elevated railway.

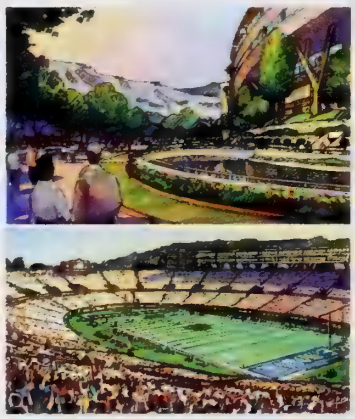
The swimming pool proposal was submitted by Nathalie Rinne of Vienna. Matthew Greer and Karin Taylor of New York imagined the High Line's continued evolution into a wild field and proposed running a boxcar along the tracks.

The ideas competition's two other winners are Ernesto Mark Faunlagui of Hoboken, New Jersey, and Hugo Beschoor Plug, based in Berlin. Faunlagui proposed incising sections of the railway to allow daylight and views to the street below. Those cutouts would then be reused in designing the furniture, parapets, and other features of a new, elevated path. Hugo Beschoor Plug's *Black Market Crawler* would house a number of commercial, cultural, and public functions in a contemporary boxcar.

What unifies these schemes, says FHL cofounder Robert Hammond, is their embrace of the grittiness of industrial-era structures and neighborhoods: "It was really important to the jury to not lose sight of the metaphorical shadow of the High Line," he says. Jurors included architects Steven Holl, Bernard Tschumi, and Marilyn Jordan Taylor, as well as landscape architects Julie Bargmann and Signe Nielsen. A selection of entries are on exhibit at New York's Grand Central Terminal now through July 26. *David Sokol*

Rose Bowl renovation proposed to lure NFL back to L.A.

In order to lure a professional football team to relocate in Los Angeles, the Rose Bowl Operating Company (RBOC) has unveiled plans to renovate and expand Pasadena's landmark Rose Bowl stadium. The organization, operated by the City of Pasadena, commissioned HOK Sport + Venue + Event to design the overhaul, which is estimated to cost $500 million.



The Rose Bowl (exterior, top) would be renovated and modernized.

HOK Sport Principal Jonathan Knight says that, in addition to updating the stadium's features, input from community groups suggested "that we come up with a solution that was respectful of the historic fabric, or even bring back some of the fabric that had been lost."

To achieve that objective, the design calls for expansion to occur primarily out of sight. Underground concourses will improve access to seating and include concession stands and other amenities previously housed in outbuildings in the Arroyo Seco. Above grade, 140 luxury suites would be added, but at the same level as existing press boxes. The design also retains the stadium's 1949 neon sign.

The project would expand the stadium from 700,000 square feet to approximately 1.5 million square feet—although modernizing the width and depth of seats and stair treads, respectively, would reduce the number of seats by almost one third, to 64,000.

For the project to come to fruition, the National Football League will have to agree to fund construction costs and guarantee that a team will make the Rose Bowl its home. No official partnership has been announced. *D.S.*

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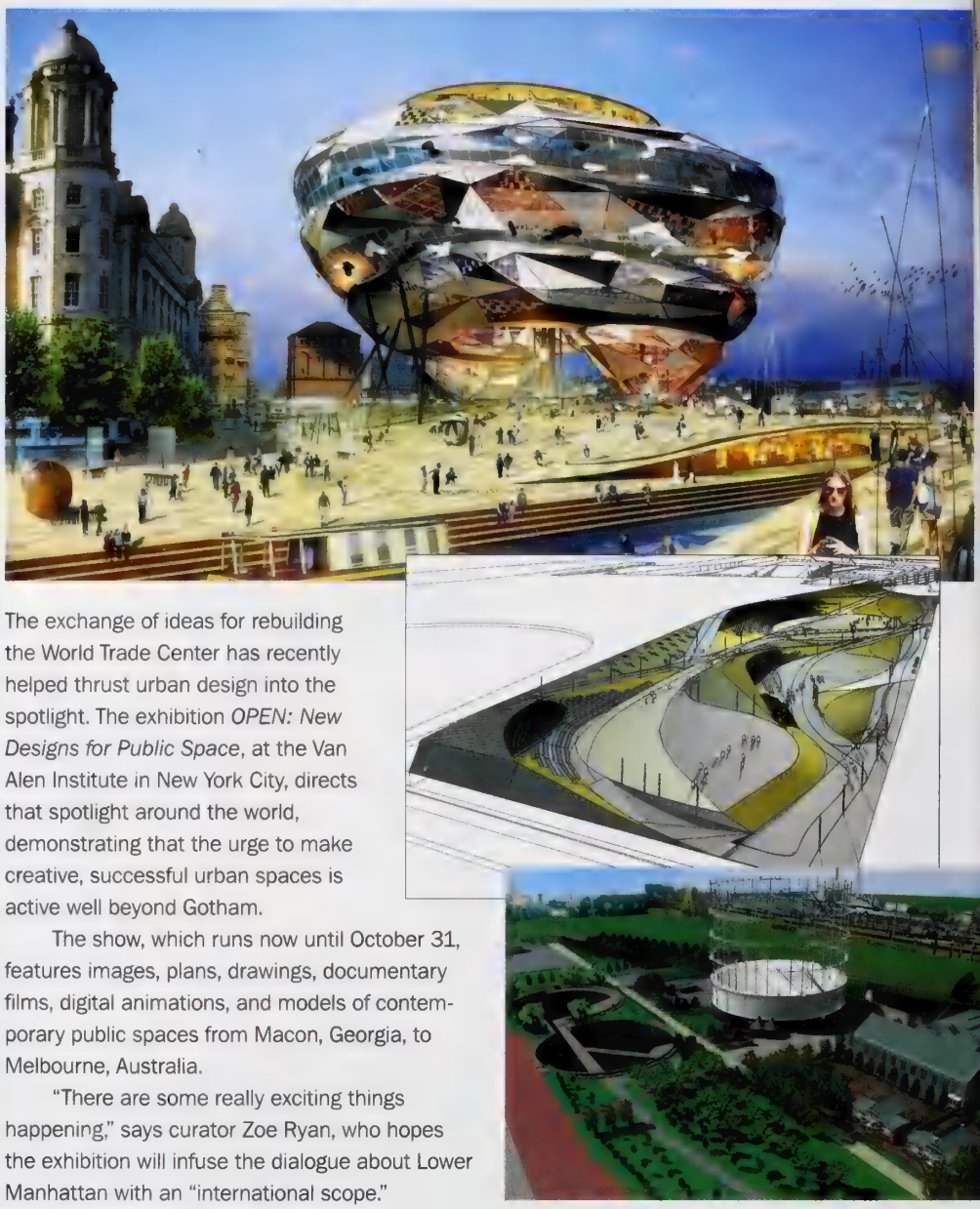
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Global urbanism explored in Van Alen Institute exhibition



The exchange of ideas for rebuilding the World Trade Center has recently helped thrust urban design into the spotlight. The exhibition *OPEN: New Designs for Public Space*, at the Van Alen Institute in New York City, directs that spotlight around the world, demonstrating that the urge to make creative, successful urban spaces is active well beyond Gotham.

The show, which runs now until October 31, features images, plans, drawings, documentary films, digital animations, and models of contemporary public spaces from Macon, Georgia, to Melbourne, Australia.

"There are some really exciting things happening," says curator Zoe Ryan, who hopes the exhibition will infuse the dialogue about Lower Manhattan with an "international scope."

"We're trying to inform the public of who and what it takes to make these projects and get them done successfully," she said. Van Alen Institute is a nonprofit organization committed to improving the design of the public realm through exhibitions, books, workshops, and competitions.

The show features more than 20 projects from six continents, and is divided into five thematic sections: plazas, streets, information centers, meeting grounds, and memorials.

Some examples, like London's bold new City Hall by Foster and Partners, Melbourne's unorthodox Federation Square by Lab Architecture Studio, and Graz's daring Island In The Mur by Acconci Studio, are complete, and have already become important public centers.

Projects in the Van Alen exhibition include Fourth Grace (top) in Liverpool, by Alsop Architects; Southeast Coastal Park (middle) in Barcelona, by FOA; and Westergasfabriek Park (above) in Amsterdam, by Gustafson Porter.

Many others are still under construction or on the drawing boards. Projects tackle issues ranging from avoiding the blandness of globalization—a stated goal of Genoa, Italy's Ponte Parodi project—to building over toxic sites. Amsterdam's Westergasfabriek Park is on a former gasworks. Visit www.vanalen.org for more information on the Van Alen Institute and the exhibition. *Sam Lubell*

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Sustainability is an often-used term these days. Well, consider the drinking fountains installed in the Oats Park School in Fallon, Nevada. Built originally in 1915, the school is now being renovated as the town's Performing Arts Center.



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The Architecture of Philip Johnson
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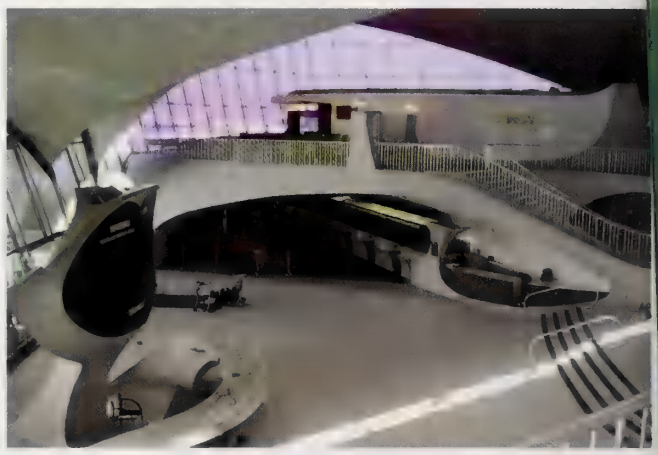
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Record News

TWA Terminal placed on National Trust's endangered list



Saarinen's TWA Terminal has been shuttered in recent years.

Eero Saarinen's TWA Terminal at John F. Kennedy International Airport and urban houses of worship top this year's list of the 11 most endangered places, as named by the National Trust for Historic Preservation. As has become traditional for the National Trust's lists, the selection includes several specific buildings and some general categories of buildings. The trust's naming of urban places of worship to its annual list coincides with the Bush administration announcement that federal funds can now be used to renovate religious buildings that have been named historic landmarks. A ban on such grants had been in place since the 1970s, for fear of violating the Constitutional separation of church and state. *The New York Times* reported that some Constitutional experts feel that the use of federal money for historic churches would be permissible, as long as the funds do not support religious programs.



Michigan Blvd. apartments had social history.

The TWA terminal is the best-known single work of architecture on this year's list. Completed in 1962, the swooping concrete structure came to symbolize flight in the way that Grand Central Terminal symbolized train travel. The air terminal sits vacant, and development plans call for the destruction of the building's two satellite concourses and construction of a large new facility that would surround Saarinen's building and cut it off from views of the airplanes nearby.

The architect Robert Mills designed the U.S. Marine Hospital in Louisville, Kentucky, which was built in 1851 and is now the country's only surviving inland marine hospital. The three-story Greek Revival structure has been vacant since 1975 and has severe termite and water damage.

The Michigan Boulevard Garden Apartments in Chicago were built in 1929 to house the city's growing African-American working class. The musician Quincy Jones and prizefighter Joe Louis both lived in the complex, which now sits boarded and vacant, awaiting redevelopment.

The other places on the list are Bathhouse Row, Hot Springs, Arkansas; Little Manila, Stockton, California; Ocmulgee Old Fields, Macon, Georgia; East Side and Middle Schools, Decorah, Iowa; Amelia Earhart Memorial Bridge, Atchison, Kansas; Minuteman National Historical Park, Lexington, Lincoln, and Bedford, Massachusetts; and the Zuni Salt Lake and Sanctuary Zone, in Catron and Cibola Counties, New Mexico.



Bathhouse Row in Hot Springs.

The National Trust also lists some recent successes in its preservation campaigns. The Dwight D. Eisenhower VA Medical Center in Leavenworth, Kansas, will be rehabilitated, and the Chancellorsville Battlefield in Virginia has survived one of its major threats. The Gold Dome Bank in Oklahoma City, which made last year's list, has a new owner that is transforming the building into a business and cultural center. *K.L.*

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Grimshaw's Royal College of Arts design raises ire in London







The RCA addition is shown in context with the red Royal Albert Hall in all three photomontages.

A proposed $43 million extension to London's Royal College of Arts (RCA) has provoked fierce debate among the city's architecture and heritage communities. The site of the six-story, ellipse-shaped structure, designed by Nicholas Grimshaw, is between three heritage-listed buildings—the Royal Albert Hall, the Royal College of Organists, and the Royal College of Arts' Darwin Building, which dates from the early 1960s.

In spring 2000, Grimshaw won the commission for the RCA extension against David Chipperfield, Branson Coates, Michael Hopkins, Wilkinson Eyre, and Will Alsop in a RIBA-managed competition. From the outset, both architect and client were "hyper aware" of the site's significance. "We wanted a modern building in a sensitive architectural context. Not everybody was going to like it," says Sally Mason, the RCA's director of development.

Grimshaw's elliptical form is driven by a desire to complement the curves of the Royal Albert Hall and minimize the impact on views of the Royal College of Organists. The use of glass also afforded views of the context at ground level and the potential for natural light to penetrate exhibition and study spaces inside.

English Heritage and the Commission for Architecture and the Built Environment (CABE), the two most powerful forces in British architecture, were quick to express their views. While the former was unexpectedly complimentary in stating, "We consider it acceptable in mass, scale, and height, and applaud the elliptical plan," CABE recommended alterations to the ground-level elevations to improve accessibility.

The 20th Century Society, a single-issue lobby group dedicated to the preservation of 20th-century landmarks, is fervently opposed to the development. The final decision rests with the planning department of Westminster City Council, which will rule by the end of July. *A.M.*

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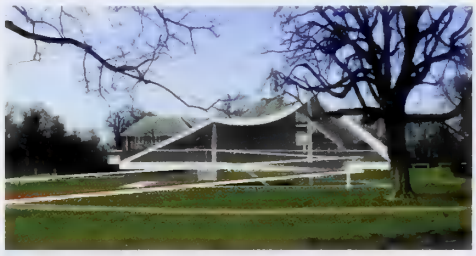
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News Briefs

Pavilion is first Niemeyer design built in Britain This summer, visitors to London's Kensington Gardens have a chance to explore the first architectural design by Brazilian architect Oscar Niemeyer to be built in the U.K. The temporary concrete-and-steel pavilion has been built on the Hyde Park lawn adjacent to the Serpentine Gallery, which commissioned the structure. The design, by Niemeyer with José Carlos Sussekind and ARUP, takes the form of a cantilevered deck 5 feet above ground, which is accessed via a ramp. The angular building further invites exploration through its semi-transparent facade. Niemeyer's is the fourth design of the Serpentine Gallery's annual program to commission temporary works for the lawn. The first was by Zaha Hadid, followed by Daniel Libeskind and Toyo Ito. Niemeyer's pavilion will be in place until September 14.



Niemeyer's pavilion cantilevers over Hyde Park.

Designed as a public space with a café, the pavilion provides additional space for lectures, films, and exhibitions, and also introduces "architects who already are respected to a wider audience," explains Serpentine Director Julia Peyton-Jones. Niemeyer, who at 95 continues to work daily, recently completed the Novo Museo in Curitiba, Brazil. *Zoe Ryan*

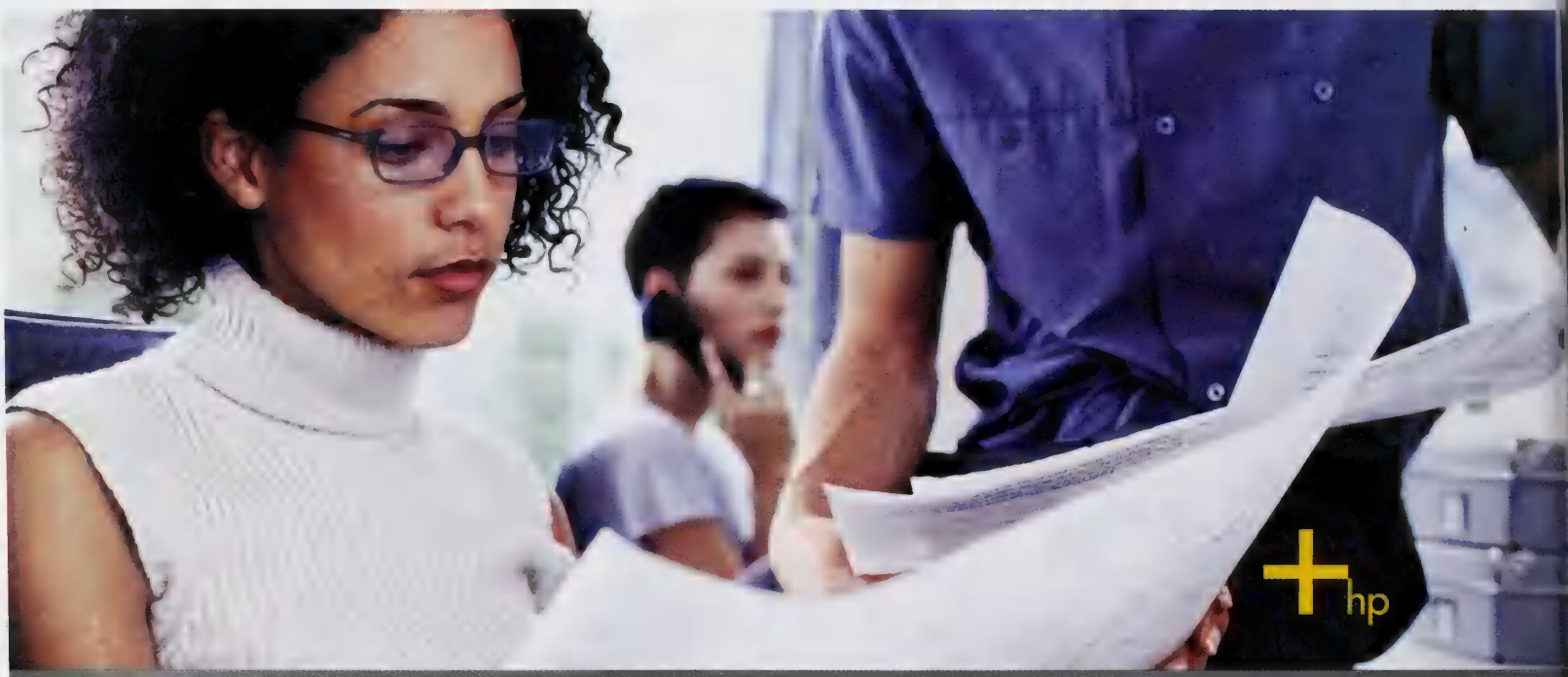
Chrysler ends design awards program After 10 years of honoring leaders in the design profession, the Chrysler Group ended its Chrysler Design Awards program in early June. Each year, the company awarded $10,000 to six U.S. designers that were outside of the automobile industry. The decision to pull the program was based on its failure to generate more sales for the company, according to Chrysler senior vice president for design Trevor Creed. In a letter explaining the cancellation, Creed wrote that the corporation "determined that the company's dollars had to be placed specifically toward our core business—selling cars." Chrysler reported a second-quarter $1.2 billion operating loss. *D.S.*

NEA appoints new director of design In June, the National Endowment for the Arts (NEA) named Jeff B. Speck its new director of design. As director, Speck will be responsible for supervising grant making, as well as the Mayors' Institute on City Design and Your Town programs. Speck, 39, was most recently director of town planning for Duany Plater-Zyberk (DPZ), and coauthored *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream* with Andres Duany and Elizabeth Plater-Zyberk. He joined the Miami-based DPZ in 1993 as a project manager. At the NEA, Speck replaces Mark Robbins, who left in 2002. *D.S.*



Speck

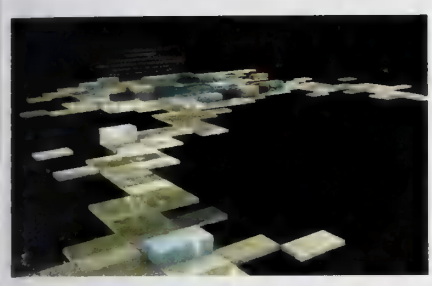
ICC names James Lee Witt new C.E.O. James Lee Witt has been named the C.E.O. of the International Code Council, a position formerly held by Bob Heinrich. Witt, director of the U.S. Federal Emergency Management Agency in the Clinton administration, has 25 years of work in disaster management. *D.S.*



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U.N. selects Arquitectonica-designed memorial After a yearlong invited competition, the United Nations has chosen Arquitectonica's design for a memorial dedicated to U.N. workers who lost their lives in the field. Now under construction, the memorial, located in the North Garden of the United Nations headquarters in New York, will be completed in September 2003.



The U.N. memorial has stones around a pool.

Against a glass wall inscribed with the phrase, "Remember here those who gave their lives for peace," 60 large stones quarried in five continents will be arranged in an irregular pattern around a pool. The stones will vary in height, some of them providing seating for visitors; the entire pattern will be lit from below, according to a design by L'Observatoire. The memorial is meant as a contemplative refuge from the city, says Arquitectonica cofounder Bernardo Fort-Brescia.

The U.N. will pay for the construction of the memorial with the proceeds of the 1998 Nobel Peace Prize, which was awarded to the U.N. Peacekeeping Forces. Arquitectonica provided its services to the U.N. pro bono. In a statement, U.N. Secretary-General Kofi Annan also announced that the $1 million he received with the 2001 Nobel Peace Prize will be used to establish a fund for the children of U.N. personnel killed in service. *D.S.*

Rogers to work for National Assembly of Wales again Richard Rogers Partnership (RRP) is part of a consortium bidding to construct the design that the firm developed for the National Assembly of Wales. The bizarre scenario is the latest chapter in the stormy relationship between the firm and the Assembly. RRP won the competition to design the Assembly's new debating chamber in 1998 but was removed from the project in July 2001 [RECORD, September 2001, page 33] after costs rose 50 percent above original estimates. RRP claimed that it had not been fully paid for its services. Subsequently, a court ordered RRP to be reimbursed, and recognized the Assembly as the owner of the design. In fall 2002, the Assembly decided to select two contractors to bid for the project. At the beginning of this year, a consortium led by Taylor Woodrow, with RRP as its architect, was selected as the "preferred bidder." The consortium is expected to deliver its proposal by the end of June. When eventually complete—possibly by the end of 2006—the debating chamber will occupy a prominent site on Cardiff's waterfront. *Adam Mornement*

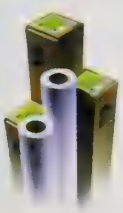


Rouse

Philadelphia developer Rouse dies Developer Willard G. Rouse III, who helped shape the Philadelphia skyline, died of lung cancer on May 27 at age 60. Rouse founded Rouse & Associates in 1972, which became Liberty Property Trust in 1994. He developed the Liberty Place skyscrapers, including One Liberty Place by Helmut Jahn, completed in 1987 and still the tallest building in Philadelphia at 947 feet. His properties include the Philadelphia Stock Exchange Building and the Kimmel Center for the Performing Arts. He also oversaw development of the Philadelphia Convention Center. Rouse, a trustee of the Enterprise Foundation, was the son of developer Willard G. Rouse II. *J.E.C.*

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Dates & Events

Off the Wall
New York City
June 12–August 22, 2003
An exhibition for the Society for Environmental Graphic Design (SEGD) invites visitors to experience the dimensions of communications and information, way-finding and signs, identity and environments, interpretive exhibits and retail. Designed by Lee H. Skolnick Architecture + Design Partnership, the installation is comprised of three sections: 1) The Work, 2) The SEGD Portal, and 3) The Design Dialogue. At the American Institute of Graphic Arts (AIGA). Visit www.scolnick.com for more information.

USDesign 1975–2000
New York City
June 19–September 28, 2003
Featuring more than 250 designs and objects, this exhibition explores some of the most significant developments in the fields of graphic design, architecture, and decorative and industrial design in the U.S. from 1975 to 2000. The show presents the work of three generations of internationally recognized and emerging designers whose style matured after 1975, including Frank Gehry, Michael Graves, Steven Holl, Maya Lin, Thom Mayne, Ross Menuez, Katherine McKoy, Karim Rashid, Deborah Sussman, and Robert Venturi. At the Museum of Arts and Design (formerly the American Craft Museum). Visit www.americancraftmuseum.org or call 212/956-3535.

Sound
West Hollywood, Calif.
Various dates, June 28–September 20, 2003
Sound, at the MAK Center's historic Schindler House, presents annual summer concerts featuring experimental musicians and composers interacting with the landmark Modernist residence. At the MAK Center for Art and Architecture. Visit www.makcenter.org or call 323/651-1510 for schedule of performances.

Luxury Textiles East and West
Los Angeles
Through August 15, 2004
Commemorating the 50th anniversary of LACMA's Department of Costume and Textiles, this exhibition highlights extraordinary examples of the textile arts of America, Asia, and Europe from the department's extensive holdings. At the Los Angeles County Museum of Art. Call 323/857-6000 or visit www.lacma.org for more information.

Pere Noguera: Lands
Barcelona
Through August 31, 2003
A poetic reflection on the design of elements of earth used in architecture, in the home, for domestic utensils, for furniture, decoration, the garden, and everything that surrounds us. At the Ceramics Museum, as part of the Year of Design 2003. Visit www.designyear2003.org.

Conferences, Symposia, Lectures

Furniture Philadelphia 2003
Philadelphia and Wilmington, Del.
May–August 2003
In coordination with the Furniture Society's 2003 Annual Conference, this regionwide celebration encompasses 18 events with diverse participating institutions emphasizing the variety of art on view, a comprehensive celebration of furniture and its makers. Visit www.inliquid.com.

Summer Design Institute 2003
New York City
July 14–18, 2003
Educators and designers are invited to join an international roster of renowned designers and design

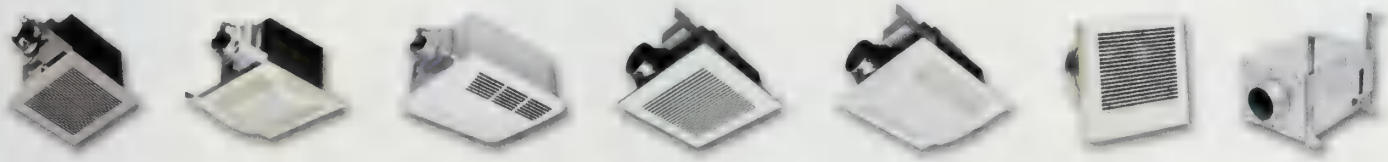

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educators as they share strategies for engaging K-12 students in the design process. Summer Design Institute is a one-week program that features workshops, studio visits, and keynote presentations that connect the school curriculum with the world beyond the classroom. Experience how architecture, environmental, product, graphic, and media design can enhance the teaching of mathematics, science, environmental studies, language arts, history, and art. Call Cooper-Hewitt, National Design Museum's Education Department at 212/849-8385 or visit www.si.edu/ndm.

SPARK: Getting Modern Design to Market: Pitfalls, Mystery, Strategy, Luck and Success
San Francisco
July 18–20, 2003
Spark: 03, a design symposium, presents a singular opportunity to explore the subtleties, questions, and processes involved in bringing design ideas to fruition in the marketplace. This symposium will feature a formidable group of international design practitioners ranging from IKEA to IDEO and including speakers such as Ray Anderson from Interface. At California College of Arts and Craft's San Francisco campus. Visit www.dwr.com/spark or call 510/433-3029.

2003 ACSA International Conference Helsinki, Finland
July 27–30, 2003
"Contribution and Confusion: Architecture and the Influence of Other Fields of Inquiry" is the theme of this conference. Throughout the 20th century, architects have attempted to translate ideas, originated in other fields, into works of architecture. Have such ideas, taken from art and various other fields, such as science, philosophy, engineering, linguistics, sociology and psychology, advanced the art of building? Visit www.acsa-arch.org or call 202/785-2324 for more information.

9th Alvar Aalto Symposium
Jyvaskyla, Finland
August 1–3, 2003
This year's topic is "Elephant and Butterfly: Permanence and Chance in Architecture." At a previous Alvar Aalto Symposium, architecture was likened to an elephant, living a long time and never forgetting, unlike the butterfly, which only lives one day. This symposium will feature discussions about using traditional, long-lasting materials and building methods versus the methods of the new age of the nomad, where fixed walls are no longer necessary. For more information call 358/014-624-811 or visit www.alvaraalto.fi/conferences/symposium2003.

International Design Conference In Aspen (IDCA)
Aspen, Colo.
August 20–23, 2003
Held each summer since 1951, IDCA presents a vital and authoritative forum on design for professional designers, students, critics, and thinkers. This year's program theme is "Safe: Design Takes On Risk." Visit www.idca.org or call 970/925-2257.



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Competitions and Awards

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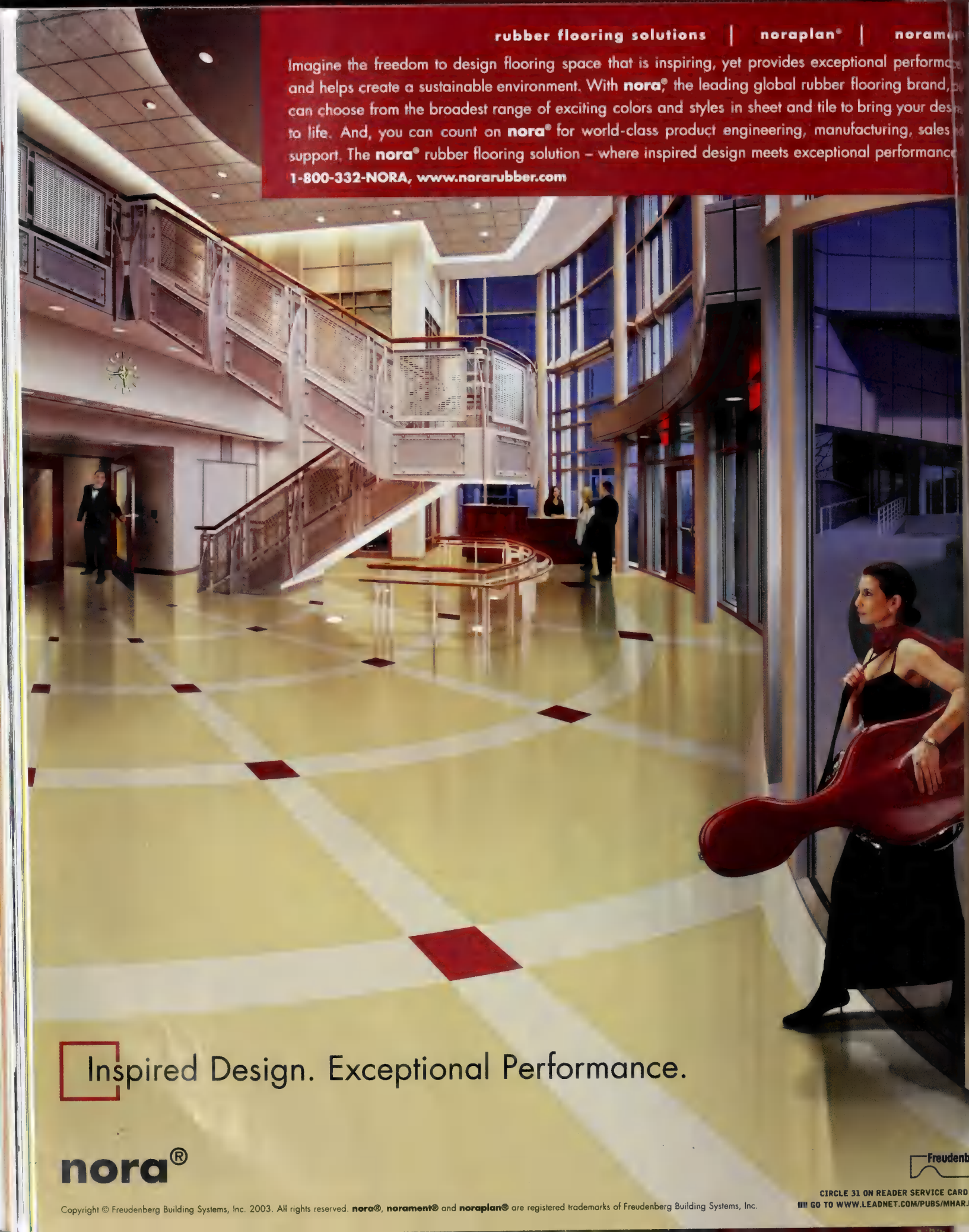
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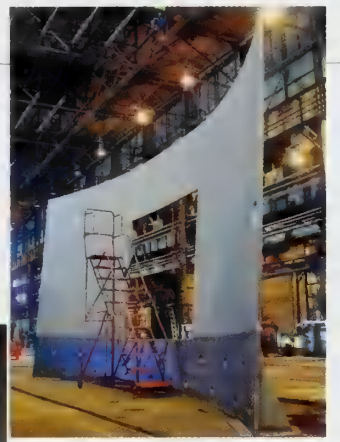
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For and about the new generation of architects

archrecord2

FOR THE EMERGING ARCHITECT

For many architects trained at schools on the cutting edge, it is Modern architecture that is most familiar and comfortable. This month in archrecord2, the Design section profiles an architect who prefers to work in a Modern idiom, but who is equally comfortable with columns. And in Work, two architects, an architectural historian, and a graphic designer take so much comfort in the late Modernism of New Haven, Connecticut, that they turned the whole city into a museum.



Pool House, New Jersey, 2003
The Cor-ten steel arc in front of this pavilion was fabricated in a factory in Maryland and trucked to the site. From the exterior, the building's skylight appears to float above the structure. The interior is finished in plaster and terrazzo.

DESIGN

At ease with a Cor-ten hut



For Scott Williams, the founder and principal of SAWA RCHITECTURE, a pool house in New Jersey marks a career turning point. The pool house contains a bar, a changing room, a water closet, and an outdoor shower. A 12-foot-high arc of Cor-ten steel shields the front of the structure. It is a thoroughly modern and striking building, reminiscent of a Richard Serra sculpture, but layered and functional. And it's a complete contrast to the new porch structure added to the rear of the house at the other end of the pool. The porch has shutters, pilasters, and a definite Colonial style.

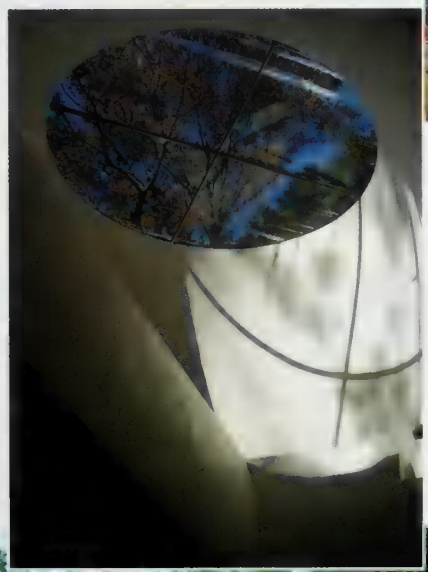
Williams designed that, too.

In fact, much of Williams's built work hews more closely to the Classical orders than to Corbusier. His work in the Classical idiom comes as much from chance as from training, though both played a role.

"My father owned a furniture company on the East Side of Manhattan," Williams said. "And when he died seven years ago, I rushed in to take over the daily operations. I got to know the decorators, and then I found myself doing renovations of Fifth Avenue apartments. You read about these architects who start off doing bus shelters in Omaha or whatever, but for me, it was the complete opposite."

Williams earned a B.Arch. from the Pratt Institute in Brooklyn, New York, and an M.Arch. from the Southern California Institute of Architecture, in Los Angeles. While there, he worked for Michael Rotundi at RoTo Architects, and then for Charles Gwathmey at Gwathmey Siegel & Associates in New York. Then his career took a stylistic turn as he took a job at Ferguson Murray & Shamamian, a New York firm known largely for its high-end traditional houses and apartments.

He went to the firm's library and immersed himself in Classical architecture and the work of Palladio. And while he wouldn't choose to work in a style heavy on columns and pediments if given the choice, Williams found





(continued from previous page) Classical architecture satisfying. In particular, the need for hand drawings suited Williams well: No matter what style he works in, he draws everything by hand.

The commission for the sunporch addition in New Jersey came to Williams even before the clients had contemplated the idea of the pool house. But when the idea came up in conversation, Williams asked for a weekend to do some preliminary drawings, and the clients were impressed. They gave Williams the go-ahead and took his design ideas on faith.

"They didn't have any idea of what they were getting," Williams said. "We barely had any idea what they were getting ourselves."

What they got was a Modernist counterpoint to his new porch, and an architect who was proud of both, even if he has a clear preference for one.

"Modernism is my style, 100 percent," Williams said, "though it's fun to go back and forth. I never try to impress my style on a client, but things come to the surface when they see your passion." *Kevin Lerner*

Go to architecturalrecord.com/archrecord2 to see more projects and product designs by SAWA RCHITECTURE.



9/11 Staten Island Memorial Competition,
Staten Island, New York, 2003
Alternating glass walls and steel plates memorialize names and provide access to interactive information via fiber optics.



RENDERINGS: COURTESY OF ZCO; PHOTOGRAPHY: © JASON VALDINA (OPPOSITE LEFT); MERGENT OFFICE (OPPOSITE RIGHT)

WORK

Turning a city into a museum

Marisa Angell, a doctoral candidate in architectural history at Yale, was in Ber "doing some language work," she note but she also intended to go out and se the architecture of the city.

"But I realized I was spending mor time in museums than going out to see buildings I wanted to see and photogra while I was there," Angell said, "and I t to think about why that was."

The answer she came up with has something to do with the explanatory nature of museums, and it inspired her begin thinking about her academic hom New Haven, as the basis for a new kind museum, one that takes the buildings c the city itself as its exhibitions. She call the project the Urban Museum of Mode Architecture, or UMMA.

Angell began to work on a series of brochures for seven of New Haven's mos important buildings: Paul Rudolph's Yale Art and Architecture Building and Crawfo Manor; Eero Saarinen's Ingalls Hockey

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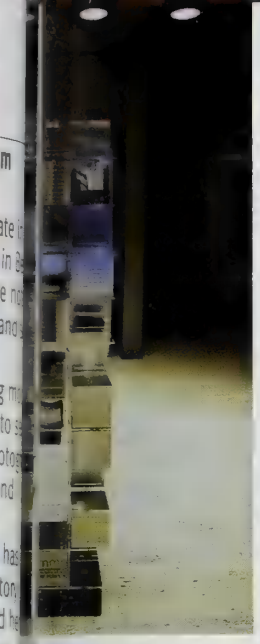
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Rink; Louis Kahn's Yale University Art Gallery and the Yale Center for British Art; Robert Venturi and John Rauch's Dixwell Fire Station; and the Beinecke Rare Book Library, by Gordon Bunshaft of SOM.

"The common thread in this project is that all of these significant buildings were constructed within a 20-year period in New Haven," said Richard arber of Emergent Office, an architecture rm that worked with Angell on the proj- ct. Emergent Office designed the seven NFObjects" that hold the brochures that ngell wrote. But the INFObjects also dis- eminate information about the projects hrough the texts that are printed on them. ach INFObject responds to the building describes. The INFObjects stand in the bbies of the buildings.

"Marisa originally came to us to ask about off-the-shelf booklet racks," said Nicole Robertson, the other partner in Emergent Office.

The brochures were designed by the third member of this collaboration, graphic designer Christine Moog. Each brochure tells the history of its subject, and some show other works by the same architect, or buildings that the one under discussion was influenced by, or a picture of the site before the current structure went up. But none have pictures of the buildings.

"I wrote the text in a way that would encourage people to turn the same eyes to architecture that they use when they walk into a museum," Angell said.

Each brochure also contains a map to the other UMMA sites, so that visitors can create their own walking tours. The INFObjects and brochures will be displayed at least through December 2003.

"The INFObjects have weathered pretty well so far," Garber said, "except for the one at the Ingalls Hockey Rink, which gets whacked at by every little kid with a hockey stick." *Kevin Lerner*

Go to *architecturalrecord.com/archrecord2* for the other five INFObjects, and to see UMMA's brochures.



"INFObjects" contain brochures about the Yale Center for British Art (left) and the Beinecke Rare Book Library (above).

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Obstructed vision: Constraints limit WTC memorial even before design is selected

Critique

By Michael Sorkin

The first duty of reconstruction is remembrance. Whatever design is chosen for the World Trade Center memorial, it will frame the meaning of the events of 9/11/01 in both its depiction of loss and in its mnemonics of memory: What is built will convey to future generations both what happened and to whom. The second duty is healing. This must include both balm for the sufferings of the bereaved and dressing of the wound to New York. The jury for the memorial competition faces very serious issues, both in the artistic specifics of its choice and in balancing the potentially conflicting claims of these two obligations.

There has already been a de facto decision to conflate healing with restoration, to make urbanism a surrogate for lives lost. In the months since the tragedy, the idea that the appropriate response is to revive the character and uses of the site before the attack has been fixed. In the current master plan, this means both the literal replacement or enlargement of what was lost—huge skyscrapers, vast amounts of shopping, transit hub, and so on—as well as the repair of the urban damage done by the Trade Center itself via the reconnection of several cross-site streets severed by the original construction.

Reflecting this ambivalence, the 13-member competition jury (which includes designers Maya Lin, Enrique Norten, and Michael Van Valkenburgh) is already bridling at its constraints. Shortly after being tapped, several jurors declared their willingness to "break the rules" by entertaining submissions that ignore the announced requirements. Even the brief for the competition hedges its bets by stating that "design concepts that propose to exceed the illustrated memorial site boundaries may be considered by the jury if, in collaboration with the LMDC, they are deemed feasible and consistent with the site plan objectives." Juror James Young put it most strongly: "Anything [competitors] might have in mind, any response, will be considered here."

It is easy to understand the jury's unease, given the constraining character of the master plan. The Libeskind scheme is not simply a proposal for the organization and reconstruction of the site, but a large-scale cooptation of the grammar of memory. Clearly, the plan is itself intended as the primary memorial and thus dramatically deforms the scope and possibilities of the competition, much as the two rounds of architectural consultation were themselves hemmed by a program that brooked no variation on the commercial character of the project.

For those trying to produce the memorial-within-the-memorial, the constricting influence of the master plan will be felt in two registers. To begin, the location of the memorial site 30 (or 70) feet below grade and its surrounding by the bloated Libeskindian apparatus of train station windows, neatly glazed bathtub, dancing waters (the wall that held back the Hudson now apparently needs protection from the rain), giant waterfall, ramps, cantilevered cultural facilities, and gigantic towers, will certainly influence the mood of the place. Indeed, the insistence on descent as the appropriate memorial kinesthetic has already aroused strong opposition from people who live and work in the area: A recent poll shows that 70 percent of those living and working in the neighborhood want the memorial to be approached from street level.

But it isn't simply that the one instance of sanctioned public participation must speak from a pit, it's the command of aura that offers the biggest challenge to free imaginative access. Libeskind's elaborate iconographic program is a straightjacket for meaning. Its most prominent component is that 1,776-foot tower, an Ayn Randian totem of patriotism as machismo. This decision to Americanize the event assures that we accept Al Qaeda's intended meaning for the attack. Never mind that hundreds of people from 92 countries other than the U.S. were murdered, the object of the attack—and of its commemoration—is reduced by this mock-patriotic metonymy with its banal association with the Statue of Liberty, her torch replaced with TV antennae.

On June 12, Governor George Pataki, at a meeting with representatives of 9/11 survivors, declared his opposition to current plans to construct a bus garage beneath the memorial site. The statement refined his earlier insistence that the footprints of the Trade Towers were consecrated ground and the central armature for commemoration. While this strategy seemed straightforward, a parsing process had begun months ago, prompted, in part, by the fact that the idea of the footprints was largely conceptual, all evidence of their presence having been cleared from the site. How deep were the new prints to be? How high? Could they be moved? And what might appropriately occur in and near them without infringing on their aura?

After selecting the Libeskind scheme in February, the LMDC called



The USS Arizona Memorial rests above the site where the battleship sank.

Contributing editor Michael Sorkin is director of the urban planning program at The City College of New York.

for the garage below the memorial and the architect quickly obliged by raising the level of his commemorative pit by 40 feet. Now the governor, reflecting widespread sentiment, has insisted that the footprints descend to bedrock and has dramatically changed the terms of the current memorial competition.

If ever a commemorated event was site-specific, it is here: We are marking a killing field, a crime scene. Given the coincidence of marker and event, what special qualities are implied? This is not a commemoration at a distance, like the Vietnam memorial. That somber wall responds to the geometries and meanings of the Mall and, in its modest descent into the earth and its simple foregrounding of the names of the dead, it aptly commemorates a still ambiguous but unquestionably tragic event without the usual triumphalism of war memorials or any overwrought iconography. This is our first memorial to a war we lost and it rightly focuses on sacrifice. Libeskind's project—with its bellicose iconography of strength, its giganticism, and its emphasis on heroism—seems to commemorate victory.

As evidenced by Gettysburg, the USS Arizona in Pearl Harbor, and Babi Yar in the Ukraine—which are commemorated in situ—the symbolic finds its most pregnant source in the particulars of place. The topography of the massive gathering of armies, the submerged hull, and the painful ravine, all supply an infusion of both forms and ghosts. Like that sunken battleship, the WTC footprints are a kind of readymade. And the dust of the victims abides in place. How to mark this coincidence?

In the immediate aftermath of 9/11, a highly aestheticized discourse arose. Forced to use familiar categories to assimilate an unfathomable event, many of us lapsed into the language of the sublime. Typical was the widespread call for the careful conservation of the twisted facade of the south tower as a memorial. And it was hard to resist finding it beautiful, a resonant icon for the event. But the domination of the debate by aesthetic categories distracted us from broader questions. The conspiracy buff in me, for example, thinks the LMDC set up Beyer Blinder Belle for its rejection on artistic grounds, enabling Libeskind to return several months later with almost exactly the same project, now wrapped in ziggy-zaggy signifiers of "architecture."

Libeskind has been widely criticized for his own favored (and seemingly universal) iconography—that of things shattered, wounded, twisted, slashed—and the objection has merit. We revere not just what we make beautiful but also the forms we inscribe in memory to stand for the events themselves. There is a difference (not to mention a choice) in remembering the spectacular mushroom cloud over Hiroshima or the muscular hardware of the Enola Gay instead of the incinerated bodies and the lingering cancers.

How to find both the ground and the grounds of remembrance at Ground Zero? Thinking hard about this issue these past 20 months, I have come to believe very strongly that all of Ground Zero should remain as open, public space. Just as New York's premier expression of private property is the skyscraper, our best public spaces are our parks. It seems to me this should be the frame for a memorial, with private interests relegated to the abundant opportunities available at and beyond Ground Zero's physical periphery. Just as Central Park forms an attractor for the cultural institutions around it, so this site might be a point of dissemination for public use and space.

Passing the site several times a week, I am increasingly struck by its power and coherence as a space. No building will ever achieve the eloquence of this void in speaking of the event. We do not hallow this ground simply by filling it with buildings. ■



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From Down Under to Over the Top, Sydney to Cirque du Soleil

Books



Utzon: Inspiration, Vision, Architecture, *by Richard Weston. Copenhagen: Edition Bløndal, 2002, 432 pages, $120.*

Although Jorn Utzon, winner of the 2003 Pritzker Prize, created one of the most famous buildings in the world, both the Sydney Opera House and Utzon himself have remained elusive. Throughout his career, Utzon has closely guarded his privacy and declined offers to collaborate on monographs. However, after Richard Weston completed much of the legwork for this volume, Utzon agreed to contribute to it. The result is a gorgeous, intimate monograph that overflows with images, anecdotes, and Weston's admiration for the Danish architect.

Weston focuses on the architect's design process and his personal relationship to architecture. In providing sketches and stories about the genesis of many projects, the author emphasizes Utzon's sources of inspiration, the influences on him, and early design stages of his work. In addition to hundreds of images— documenting his pure but relatively slim body of work from the 1962 Kingo Housing in Helsingor, Denmark, to the 1994 Utzon house in Majorca—the monograph includes many writings by Utzon that delineate his vision of modern architecture as harmonizing with nature and contemporary society. The writings reveal an earnest and dedicated personality.

Utzon's character becomes particularly relevant in Weston's re-evaluation of the Sydney Opera House controversy. Although the building was completed 30 years ago, the literature on Utzon is largely restricted to that project, the most recent volume being *Jorn Utzon, Architect of the Sydney Opera House*, by Francoise Fromonot (Ginko Press, 2002). Weston recounts the well-known saga—how Utzon spent nearly a decade in Australia, beleaguered by engineering difficulties and back-room bickering, only to withdraw from the project in 1966—and reconsiders allegations that Utzon was to blame for the difficulties. To support his claim that Utzon's reputation was unfairly tarnished, Weston cites the different perspectives and approaches of the architects, the engineers, and the politicians. He concedes that a few of Utzon's ideas were misguided, but points out that modern technology would have resolved the conflicts between the architect and the building's engineers.

Publicly seen as a failure after leaving Sydney, Utzon continued to develop his style and grow as an architect. Weston follows Utzon's signature architectural element, the platform, as it reappears throughout his career, most notably in competition designs from the 1960s. The author also applauds Utzon's exploration of new techniques, such as "additive architecture," an approach to prefabrication characterized by building with a kit of parts and repeating a limited number of architectural elements.

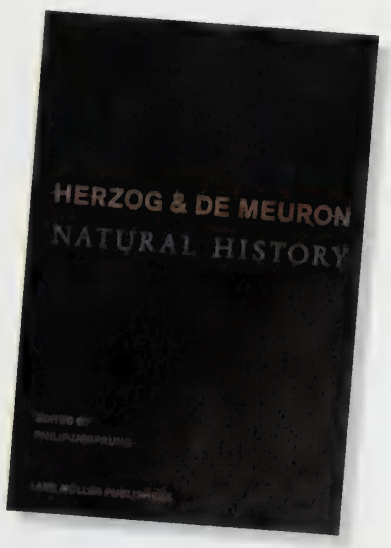
Weston writes unashamedly out of love for Utzon's architecture, and the author's enthusiasm for it is infectious. *Diana Lind*

Herzog & de Meuron: Natural History, *by Jacques Herzog, Pierre De Meuron, Philip Ursprung, Phyllis Lambert, Kurt W. Forster. New York: Distributed Art Publishers, 2003, 455 pages, $65.*

Swiss crypto-twins Jacques Herzog and Pierre de Meuron were born in 1950, attended the same schools in Basel, opened their architecture office there in 1978, and brought home the Pritzker Prize in 2001. Pritzker juror Carlos Jimenez commented on "their capacity to astonish," to transform the ordinary into "something truly extraordinary." Take, for example, the copper-wrapped railway Signal Boxes in Basel, a stark monolith rising from intersecting railways; the unarticulated cubic Eberswalde Library, in Germany, inscribed with hovering images; or the "information skins" for a 1991 competition entry for an arts center in Blois, France. Materials, as you might guess, are the firm's métier.

Neither a monograph nor enhancement for coffee tables, this book attempts, above all, to comprehend the phenomenon of Herzog and de Meuron, how their work has drawn upon art (past and present), and how they join architecture with art in buildings that "prove capable of absorbing an artist's contribution," in the words of Kurt Foster. Editor Philip Ursprung writes that the public still hasn't decided whether Herzog and de Meuron's image-saturated projects are about art or architecture; that, he says, seems to suit them, perhaps because they challenge the boundaries between the two. At the same time, they are trying to "recover for architecture a standing granted only to art, while avoiding the treacherous aspiration of turning building itself into an art," in Foster's words.

The volume accompanied an exhibition, *Herzog & de Meuron: Archaeology of the Mind*, organized



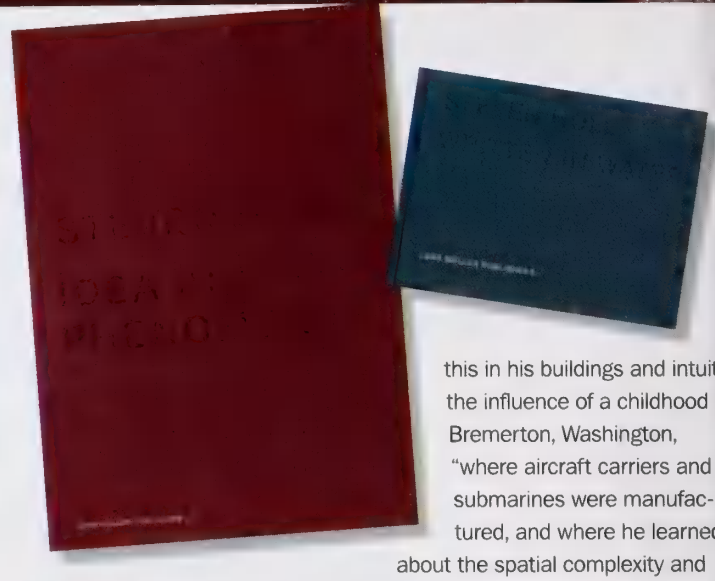
by the Canadian Centre of Architecture (CCA). The exhibition originated at the CCA last October and continues at the Heinz Architectural Center, Carnegie Museum of Art, Pittsburgh, through September 7. Like the show, the book includes unfinished items and fragments from the partners' storage room. Attempts to understand the work of Herzog and de Meuron prompted interpreters to "pour over their biographies like an archaeologist," writes Ursprung.

It should come as no surprise that the people who run the CCA, a museum in the business of exhibiting architecture, are fascinated by Herzog and de Meuron, architects known for their designs of museums and exhibitions of their work in museums, most memorably eight years ago at the Centre Pompidou in Paris. Their Tate Modern transformed a giant London power station into a suite of galleries. Their de Young Museum in San Franscisco is scheduled for completion in 2004, and their extension to the Walker Art Center in Minneapolis is expected to be finished in 2005.

The book unfolds in six thematic portfolios, each accompanied by essays from artists, scholars, and other worthies and by a statement by Herzog and de Meuron, always speaking with a single voice. About architectural approaches or style, for instance, they say, "You can pit picture-makers against iconoclasts or an ecological approach against a technically oriented one. Such contradictory pairs are legion but ultimately they overlap."

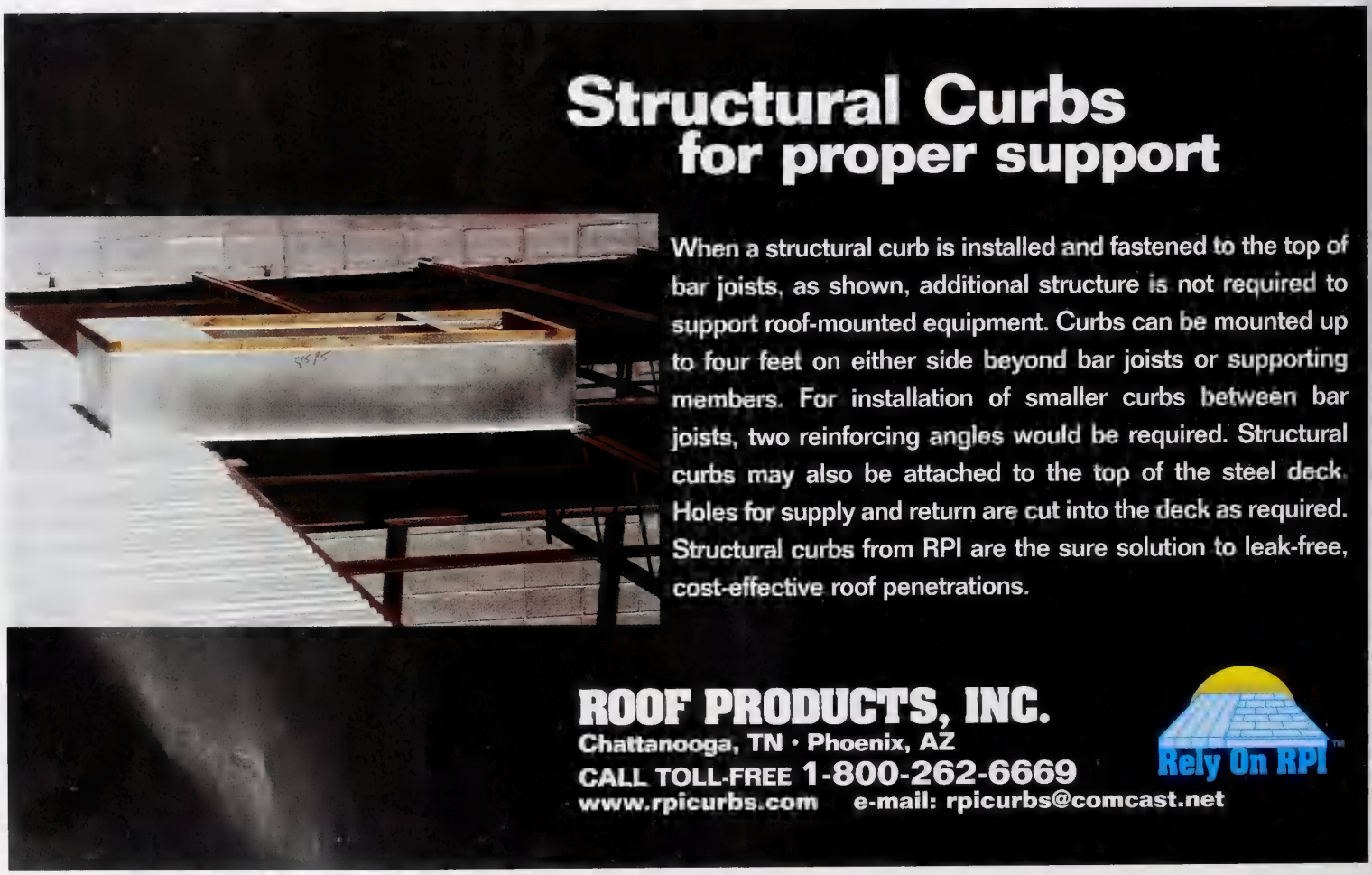
This is a provocative, intriguing book. *Andrea Oppenheimer Dean*

Steven Holl: Idea and Phenomenon, *by Steven Holl, Dietmar Steiner, Michael Bell. Baden, Switzerland: Łars Müller and Architeckturzentrum, 2002, 128 pages, $50.*



For all his fame, Steven Holl has done it his way. Austrian critic Dietmar Steiner writes that Holl works independently of the cultural and architectural visions of his peers. In another essay, British artist Yehuda Safran says, "He approaches everything with a mind unclouded by current opinions." You may sense this in his buildings and intuit the influence of a childhood in Bremerton, Washington, "where aircraft carriers and submarines were manufactured, and where he learned about the spatial complexity and intense gray atmosphere of those spaces," says Safran.

This isn't a monograph per se. With its stylish design and choice of affecting images, the book focuses on a reflective form of architectural work and on the sculptural expression inherent in Holl's designs, his compositions, materiality, and wonderful use of light. These qualities are apparent, for instance, in the Sarphatistraat offices in Amsterdam (1996–2000). The book showcases 13 projects with



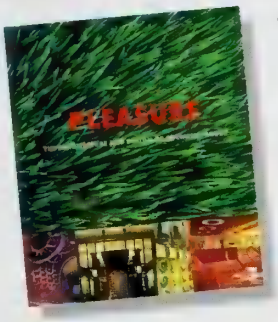
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ompletion dates from 1997 to 2004. oll's buildings and projects from 974 through 2001 are cataloged at e back of the book.

Perhaps more to the point than ther Steiner's or Safran's high- inded, philosophical essays are ie book's images. They show how oll's work, from first sketch to ompleted design, is intended to atisfy spiritual and emotional eeds and is tightly bonded with the urroundings. Borrowing a quote om Kant, Safran writes, "Concepts ithout intuitions are empty; intu- ions without concepts are blind." oll writes that concept drawings are my secret weapon." *A.O.D.*

teven Holl: Written in Water, *y Steven Holl and Lars Müller. Baden, Switzerland: Lars Müller ublisher, 2002, 400 pages, $50.*

his brick-size book, measuring by 7 inches and 2¼ inches thick, ontains 365 drawings created etween 1992 and 2001. It is a liary of design ideas rendered in watercolor, a perfect medium for an architect known for the sculptural qualities of his buildings and for his manipulation of light. In a short introduction, Holl writes, "Often the small paintings are playfully vague; yet at the same time they capture the idea that will drive the design of an entire project." He says that while architects need to use all the resources that computerized architectural production offers, "I believe the idea of a building, the 'seed germ' as Louis Sullivan termed it, is born with an early intuition.... The initial sketch still begins the process."

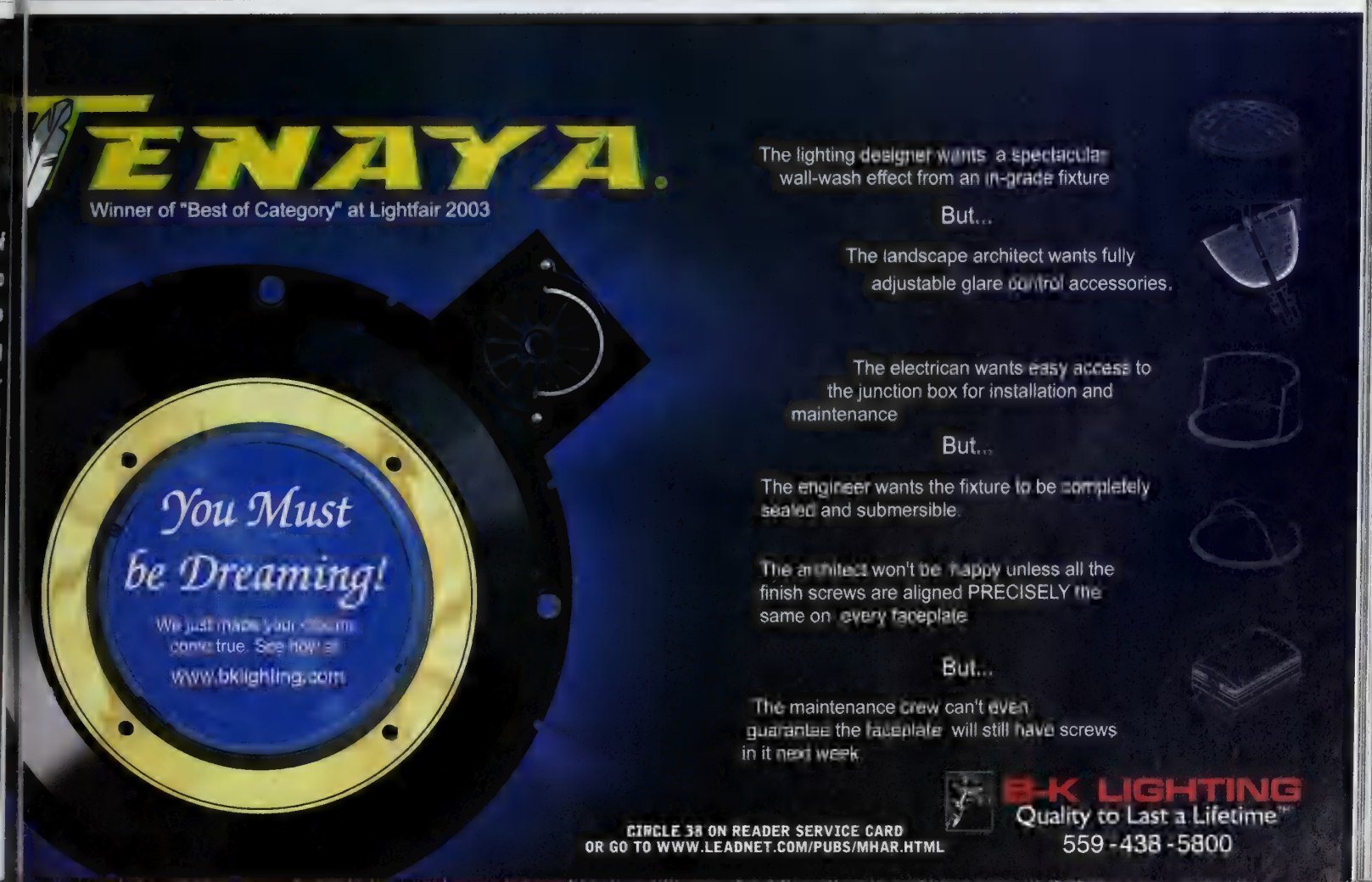


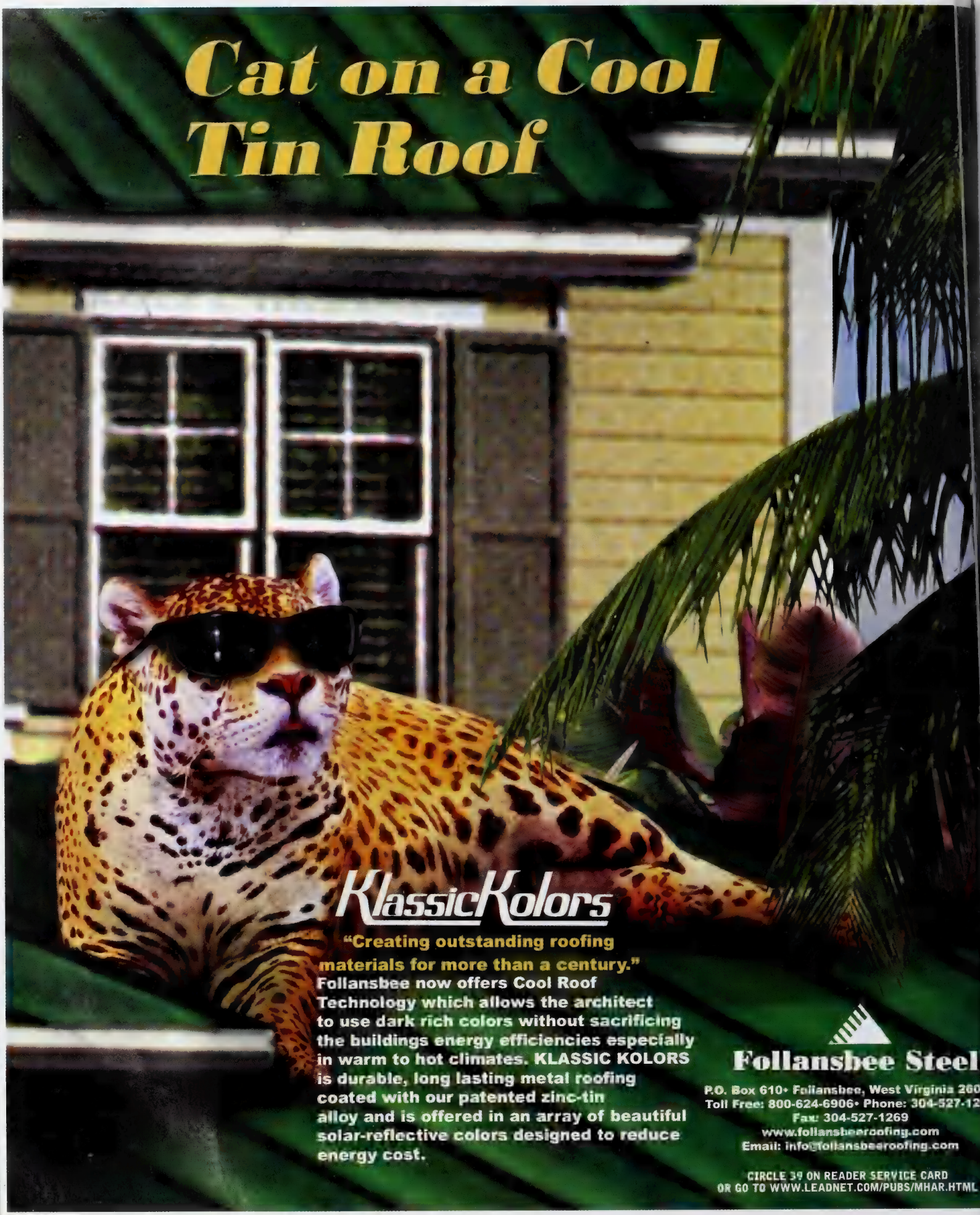
Some of the drawings in this little volume became the basis for buildings, such as a dormitory at MIT. Yet, Holl writes, "regardless of their fate, [the drawings] remain a probe of intuition and chance, aimed at liberating the imagination." The sketches are very telling. *A.O.D.*

Pleasure: The Architecture and Design of Rockwell Group, *by Kurt Andersen, Paola Antonelli, Arnold Aronson, Raul A. Barreneche, Michael Bierut, et al., New York: Universe Books, 2002, 224 pages, $65.*

Face it. The architecture we most admire tends to be very, very serious, pared down, and way cool. Then there's the Rockwell Group, whose work is effervescent, lush, and emotion-laden. Critic and novelist Kurt Andersen writes that the group's "love of color and spectacle and sentiment guaranteed their exclusion from the 20th-century canon." They took Venturi-esque ideas and ran with them, turning the lobby of the W Hotel in New York's Union Square into a topiary garden, erecting a tent at New York's Lincoln Center for an AIDS fund-raiser that looked like a bazaar with stylized minarets and glittery beads, and designing a gallery exhibition with every artifact suspended from the ceiling.

As in his theaters for Cirque du Soleil, David Rockwell approaches architecture as a fun-loving impresario creating magical spaces to draw crowds. Known for his casinos, theaters, and restaurants, he is pigeonholed as an entertainment architect. Indeed, he belongs to the tradition of P.T. Barnum, who put up grand buildings to house extravaganzas and ignored the conventional boundaries between theaters and museums and circuses, a tradition revived by Disney. But the Rockwell Group also brings life and a sense of comfort to hospitals and hotel rooms. Its designs may resemble stage sets, but the stage sets are stunning and have elegance and verve. Some of the firm's work comes as a breath of fresh air, as does this book. *A.O.D.*




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The Chrysler Building's strange starring role in *Cremaster 3*

Exhibitions

By Christina Rogers

Cremaster 3. *A film by Matthew Barney. Part of the exhibition* The Cremaster Cycle, *shown at the Solomon R. Guggenheim Museum, New York (ended June 11, 2003). All five films in the series can be seen nationally in selected theaters.*

While it may not be uncommon to see glimpses of notable works of architecture in films, the Chrysler Building is itself a character in *Cremaster 3*, Matthew Barney's theatrical film that was shown in the recent exhibition *Matthew Barney: The Cremaster Cycle* at the Guggenheim Museum in New York. Although the show has closed, *Cremaster 3* lives on: It is being presented across the country through the end of the year (see schedule at www.archrecord.com, In the Cause of Architecture). In many ways, the Chrysler Building is the protagonist of this evocative tale, where inner conflicts and external obstacles beset the tower as it nears completion. The story is set vaguely in the 1930s, and it traces the construction of the tower—and its fictional partial destruction—through a visual narrative so stunningly beautiful it makes up for the lack of dialogue.

The story centers on an ongoing struggle between the building's architect, Hiram Abiff—a character from Masonic lore, played by Richard Serra—and the "Entered Apprentice," a rugged-looking fellow played by Matthew Barney. Despite the architect's attempts to complete the structure, Barney spends most of the film trying to sabotage the skyscraper by ascending from the lobby to the spire through the elevator shaft. At the same time, the tower has begun to implode at its base. In the lobby, five 1967 Chrysler Crown Imperial sedans ruthlessly ram into and destroy a 1930s model Chrysler Imperial New Yorker, trashing the marble entrance hall of the tower in the process. Meanwhile, the apprentice has seized an elevator car and, filling it with concrete, sends it plummeting to the ground floor. At the heart, the tower represents the conflict between forces that systematically scheme, order, build, betray, and destroy.

Barney got the idea for the demolition derby after learning that in the 1930s a car showroom occupied the ground floor of the Chrysler Building. The lobby in the film is a replica of the actual space, built to dimensions slightly larger than those of the actual lobby, and filmed in a warehouse in Sunset Park, Brooklyn. Before constructing the set, Barney's production team photographed the walls, floors, and ceilings of the actual Chrysler Building lobby and digitally enhanced them. A local billboard company then had images reproduced on large rolls of vinyl and paper. Hence, the lobby that appears so vividly in the film is mostly made of paper glued on ¼-inch plywood board in front of 6-ton concrete blocks. Red clay dust, matching the marble in the lobby, was added to the wall cavities, so any impact would look like marble being pulverized.

The Chrysler Building (right). Matthew Barney scales the Guggenheim Museum (bottom left). Barney as Entered Apprentice (below left).





To recreate the exterior of the Chrysler Building as it appeared during its construction in the 1930s, digital effects artists Matthew Wallin and Alex Martinez of the Mantron Corporation researched photographs, and then grafted planks, beams, and metal framing to the

Christina Rogers writes about architecture and design in New York City.



Barney took artistic license recreating the Chrysler Building's now demolished Cloud Club.

computer model of the building.

Initially, Barney had hoped to turn the 180-foot spire into a real-life maypole. Given the cost and danger of this idea, he decided to ask Wallin and Martinez to render the maypole scene using exterior footage of the building shot by helicopter.

While there were also a number of scenes filmed in the actual spire of the tower, the scenes in the Cloud Club had to be completely reconstructed as a stage set. By the time production had begun on the film, the actual Cloud Club had been entirely gutted. In reconstructing the space, Barney took liberties with its design, modeling it on photos of bars he had seen in Dublin. He also placed the Cloud Club farther up in the tower in order to incorporate the triangular windows and give the space an off-balance feel. While the elevator car that Barney sends plummeting to the lobby was also a set, the scene in the shaft of Barney climbing the elevator cables is authentic—it was filmed in a neighboring 50-story building. (In spite of the strenuous and often dangerous circumstances, Barney prefers to perform all his own stunts.)

In the midst of the Chrysler Building's story, the film's narrative makes a short excursion to the Guggenheim Museum for an episode called "The Order," where the architect and apprentice appear again as opponents. Again, architecture stands at the heart of their struggle. Barney must climb the vertical side of the museum's ramps to reach the architect who is throwing Vaseline against a black canvas on the top tier. Along the way, Barney meets chorus girls, punk bands, and a half-woman/half-leopard temptress. All the scenes in the Guggenheim were shot in the museum's rotunda, including the shots of Barney climbing the ramps. "It was a circus," says production designer Matthew Ryle. "There was the equipment for the bands, the cameras, and lighting, plus dancing girls. And the museum was still open, so people were watching the shoot."

In a film that celebrates the dual urges to simultaneously create and destroy, it is only appropriate that this theme is reflected in the making of the film itself. Perhaps for Barney, the film and its creation are two processes that mirror each other. It also seems that the film and the architecture are the only survivors of this process. In the end, the Chrysler Building, in spite of its deadly assaults, remains standing. The vicious 1967 Chrysler Crown Imperials have left the lobby, and the building's spire pokes through the New York City skyline. Meanwhile, both the architect and apprentice are struck down, presumably for their arrogance. The tower outlives its creators, just as the artwork survives its creation. ■



Richard Serra, cast as the architect Hiram Abiff, shown in the Chrysler Building set.



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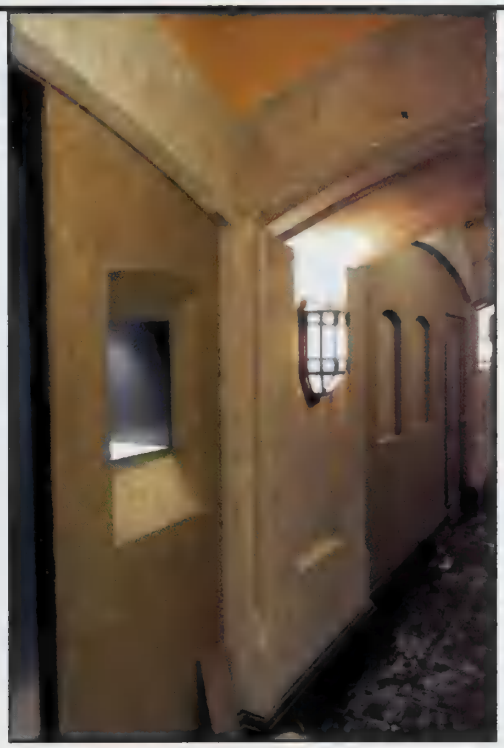
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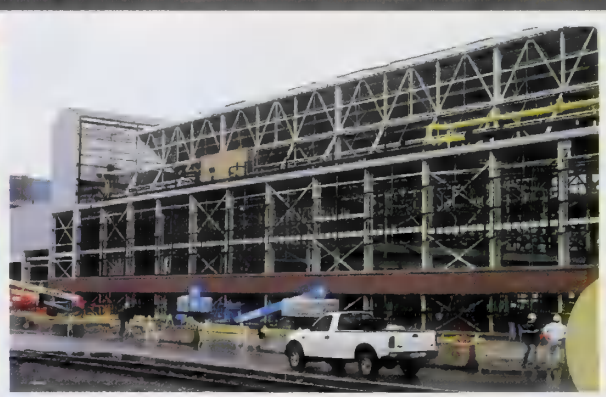
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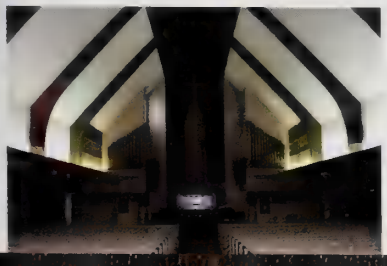
Snapshot



By Joseph Giovannini

A California church is reborn with uncanny light

From the first day, light has been the fundamental metaphor of religious revelation and a raw material with which architects have long shaped religious space. The first rays of dawn still crack through temples in Egypt and the Druidic monoliths in Stonehenge. Divine light filters through stained-glass windows in Gothic cathedrals and hidden sources in Baroque churches. The art and mystery of light, however, often eluded Modernists because glass, lots of it, diffused light and decreased the sense of its rarity and specificity. Light became lighting, an issue of lumens rather than illumination, function rather than mystery.



Housed in an A-frame church, vintage 1954, with a dated and lugubrious interior (photo, left), the congregation of the First Presbyterian Church in Encino, California, hired a local firm, Abramson Teiger Architects of Culver City, to create a more uplifting congregational space. The budget—less than

Snapshot



The budget—less that a million dollars—for the 6,200-square-foot church meant the architects could only address the interior: The charming stone-faced exterior, resembling an English country church (below), would remain largely untouched.



a million dollars—for the 6,200-square-foot church meant that the charming stone-faced exterior, resembling an English country church, would remain largely untouched.

Trevor Abramson, partner in charge of design, working with Michael Cranfill, project architect in charge of design, wanted to create a gentle interior that would embody the church's message. Employing many physical models, the architects studied how to use abstract wall planes to translate into space the visual metaphor of hands cupped in prayer, with fingers interlaced.

From the apex of the A-frame structure down to the base walls, the architects laminated tall, wide wall planes onto the glulam structural frames in a shifted, asymmetrical pattern. The planes hide not only the glulams (which are sheathed with plaster) but also the sources of light, which seem to pool in pockets, feathering out from the sides.

The basic structure of the church becomes a luminous backdrop for the backlit planes, which read as silhouettes floating in space. The architects have succeeded not just in lightening the church, but in making it buoyant: The formerly somber interiors register all the phenomenal shifts in the sky, from subtle to intense. Even the coloration of light differs subtly—the south side of the A-frame is warmer than the north. The effect is at once fragile and powerful, and it reinforces the metaphor of the church as a vessel and vehicle of illumination. The architects have used light, like brick, as a basic material with which they construct aura. The medium is the message. ■



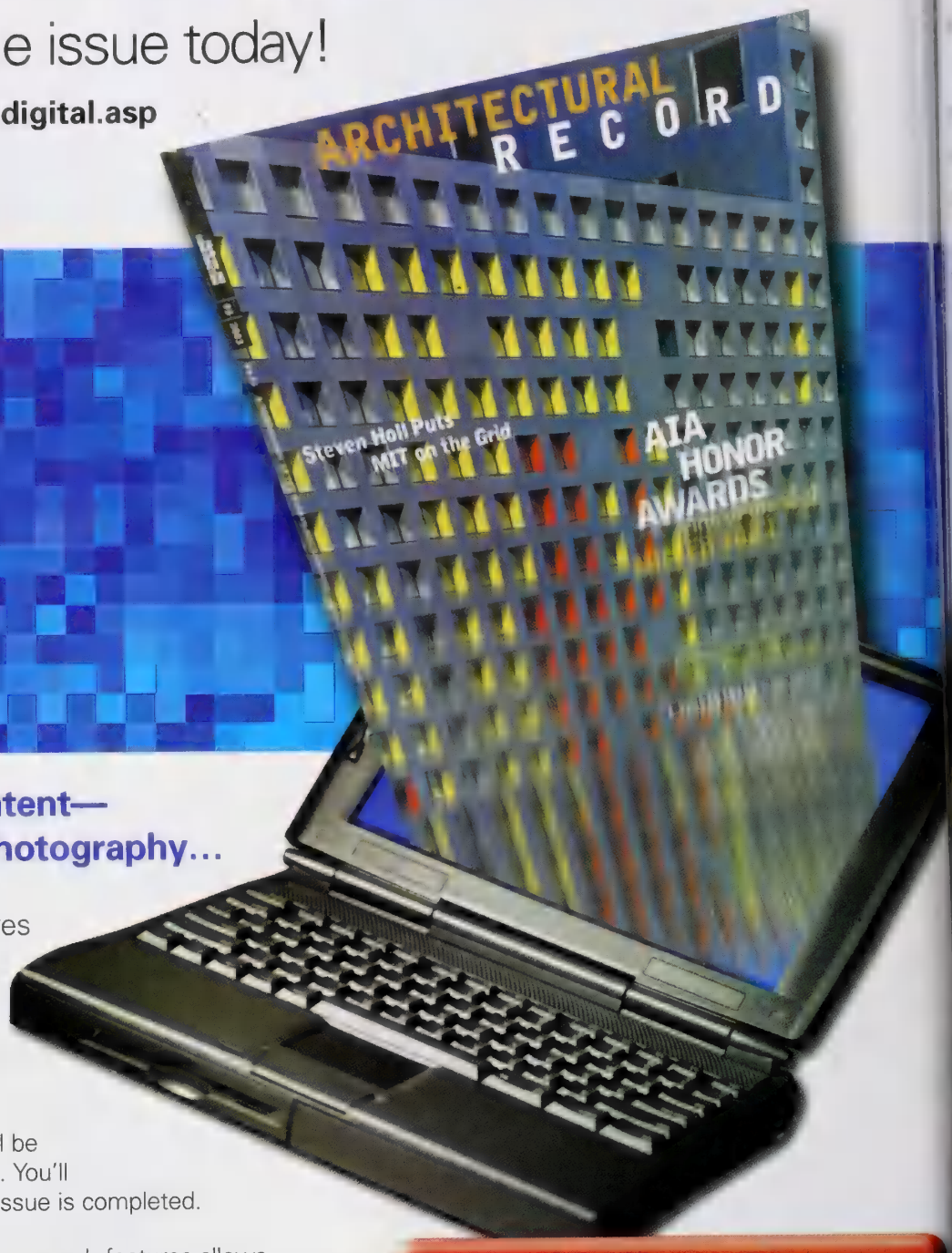
The abstract shapes of the ceiling are carried over to the floor of the church, while the curved walls around the organ and the baptismal font reiterate the forms above. Also reconfigured are the straight-ahead pews, which angle around the pulpit and altar, encouraging a more informal and conversational relationship between pastor and congregation.

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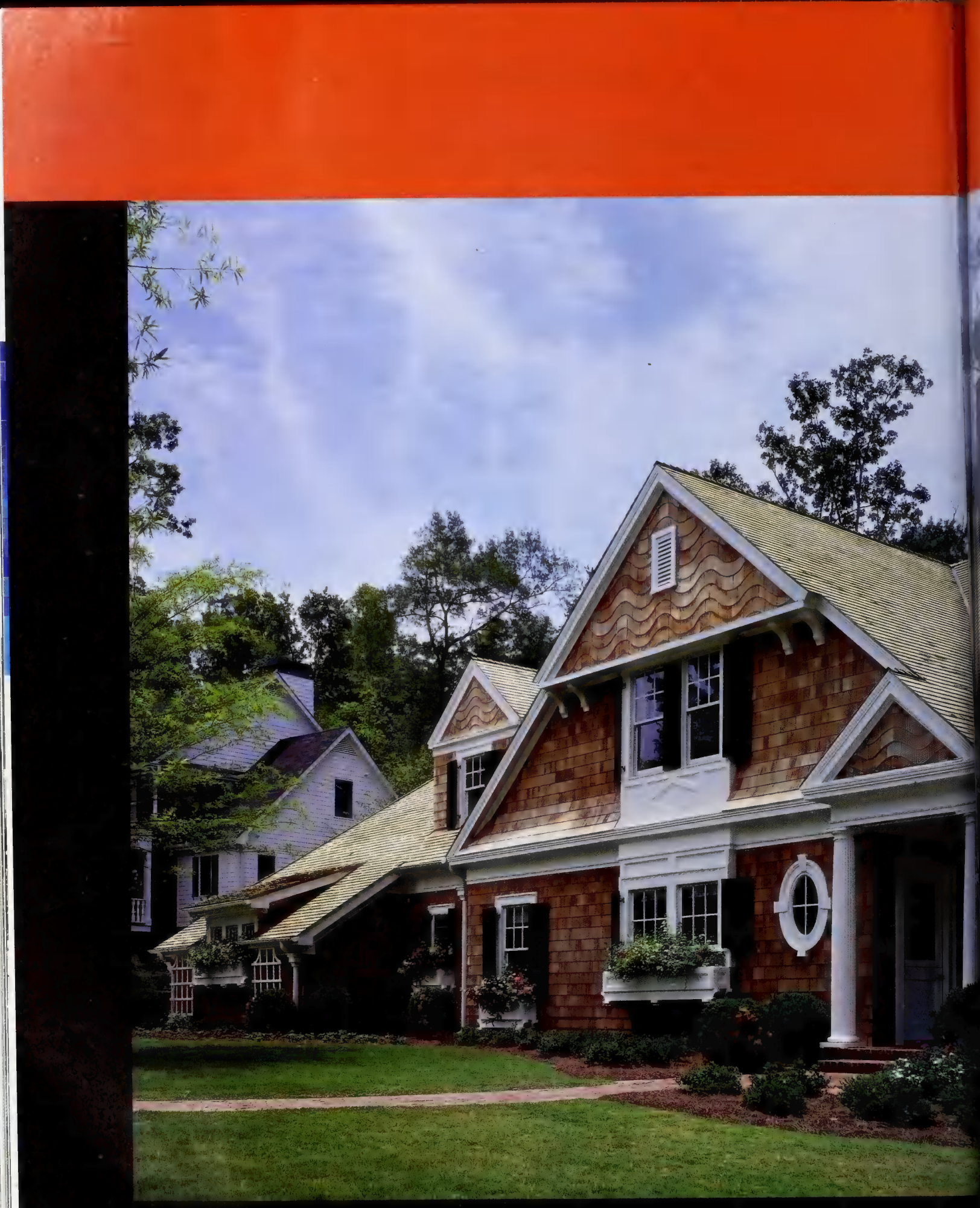
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Today's "prototype" house: Robert A.M. Stern's *Life* magazine house (1994), Kenneshaw, Ga. (opposite); Marwan Al-Sayed's design for the Houses at Sagaponac, N.Y. (right).





PHOTOGRAPHY: © PETER AARON/ESTO (OPPOSITE); THE BROWN COMPANIES (ABOVE)

The Gap Between the Promise and the Prototype

By Thomas Mellins

For many Americans, that special dwelling, the "dream house," is full of traditional architectural elements: a front porch, a gabled roof, a stone hearth. And while Americans have historically tended to ally themselves with the "new," and particularly with technological innovation, the lure of the familiar, as far as domestic architecture is concerned, is strong. The intimate connection between historicist residential design and notions of "home,"

Thomas Mellins is a RECORD *contributing editor and Web curator for the National Building Museum's Building America site.*









Designs by Hariri and Hariri (above two) and Shigeru Ban/Dean Maltz (below) for Sagaponac, N.Y.; Toll Brothers' best-selling model in the Northeast, the "Cornell" (bottom). Contrasting interpretations of an ideal home aside, Toll Brothers and the Houses at Sagaponac offer residences of similar size.

familial harmony, and belonging to a larger community remains unbroken for many house buyers today.

So, whatever became of the "house of the future," an aesthetically innovative residence that, at an affordable price, would skillfully introduce the American family to a new and better way of living? Though the 20th century is rich with examples of daring, and in some cases even "way-out," case-study houses sponsored by magazines, museums, and trade organizations [RECORD, April 2003, page 112], traditionalism continues to hold sway. Still, some architects argue that the "house of the future" is imminent, and that technological changes in the way designs are developed, materials are produced, and houses are constructed will make radically new aesthetic alternatives widely attainable in the next few years.

Clearly a dramatic shift has yet to occur. As we noted in April [page 118], Genesis Homes, the national modular-house manufacturer, showcased a Shingle Style "Cottage" at the National Association of Home Builders' International Builders' Show in Las Vegas in January of this year. Paul Jarvis, a Genesis Homes vice president, claims that the "Cottage" constitutes "a home for tomorrow." This comes almost a decade after Robert A.M. Stern offered a Shingle Style design to serve as *Life* magazine's popular "Dream House" in 1994. By 1996, more than 1,000 house plans had been purchased and the design built in locations across the country.

Whether or not "the house of tomorrow" will look like the house of yesterday, bold architectural forms are currently available to the privileged few. On the east end of Long Island, New York, an area known for its turn-of-the-20th-cen-

WHAT BECAME OF THE 20TH CENTURY'S "HOUSE OF THE FUTURE"?

tury Shingle Style mansions, Harry Joseph ("Coco") Brown, a former theatrical producer turned developer, is undertaking the construction of an untraditional residential enclave. He is entering a turf where, in the post–World War II era of the 1960s and '70s, architects such as Charles Gwathmey designed Modernist houses, and Postmodern architects, notably Stern, interpreted and revived the area's Shingle Style heritage in the 1980s and '90s. In both cases, knockoffs followed.

Now, Brown's 100-acre development, known as the Houses at Sagaponac, features "good old modern" along with truly "cutting edge" projects. They are designed by more than 30 of the world's best-known contemporary architects, including Richard Meier, Richard Rogers, Henry Smith-Miller and Laurie Hawkinson, Steven Holl, Zaha Hadid, Peter Eisenman, Lindy Roy, and Shigeru Ban.

So far, there is not a gable or a pediment or a shutter in sight. Brown says, "One of the things that will happen with this community is that people will start to rethink what they're building. They'll see a real alternative that will be socially acceptable." Yet, however accepted Modernism is in the Hamptons, the price tags of these houses—between $1.45 and $4.5 million—will render them virtually irrelevant to discussions of mass-market development.

One explanation for the current conservatism in



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A planned community, Prospect New Town, Colorado (above), boasts innovative residential design. Massie Architecture uses prefabricated elements in the Sipe House and the Red House (below and bottom). The Red House is one of the firm's nine prefab prototypes.





mass-market residential design is simple: money. Unconventional designs tend to cost more. For example, an ordinary house can be built with precut metal or wood studs, but high ceilings may obviate that possibility and require more labor. Additionally, innovative houses typically are appraised for less, in part due to the lack of comparable properties on which valuations are made. Leading home builders, such as Toll Brothers, which builds large houses in sought-after locations, offer a variety of styles unequivocally rooted in historicism. As long as sales and resales remain brisk, why would developers change what they are doing?

Ironically, the American house is changing in size and plan. In 32 years, from 1970 to 2002, the size of the average single-family house exploded from 1,500 square feet to more than 2,300 square feet. Formal living rooms, notes Gopal Ahluwalia, a vice president at the National Association of Home Builders, are increasingly being replaced by double-height Great Rooms, which incorporate kitchens. Yet, if Americans are buying houses that reflect economic and lifestyle changes in plan and construction, the enclosing walls and roofs are still historicist.

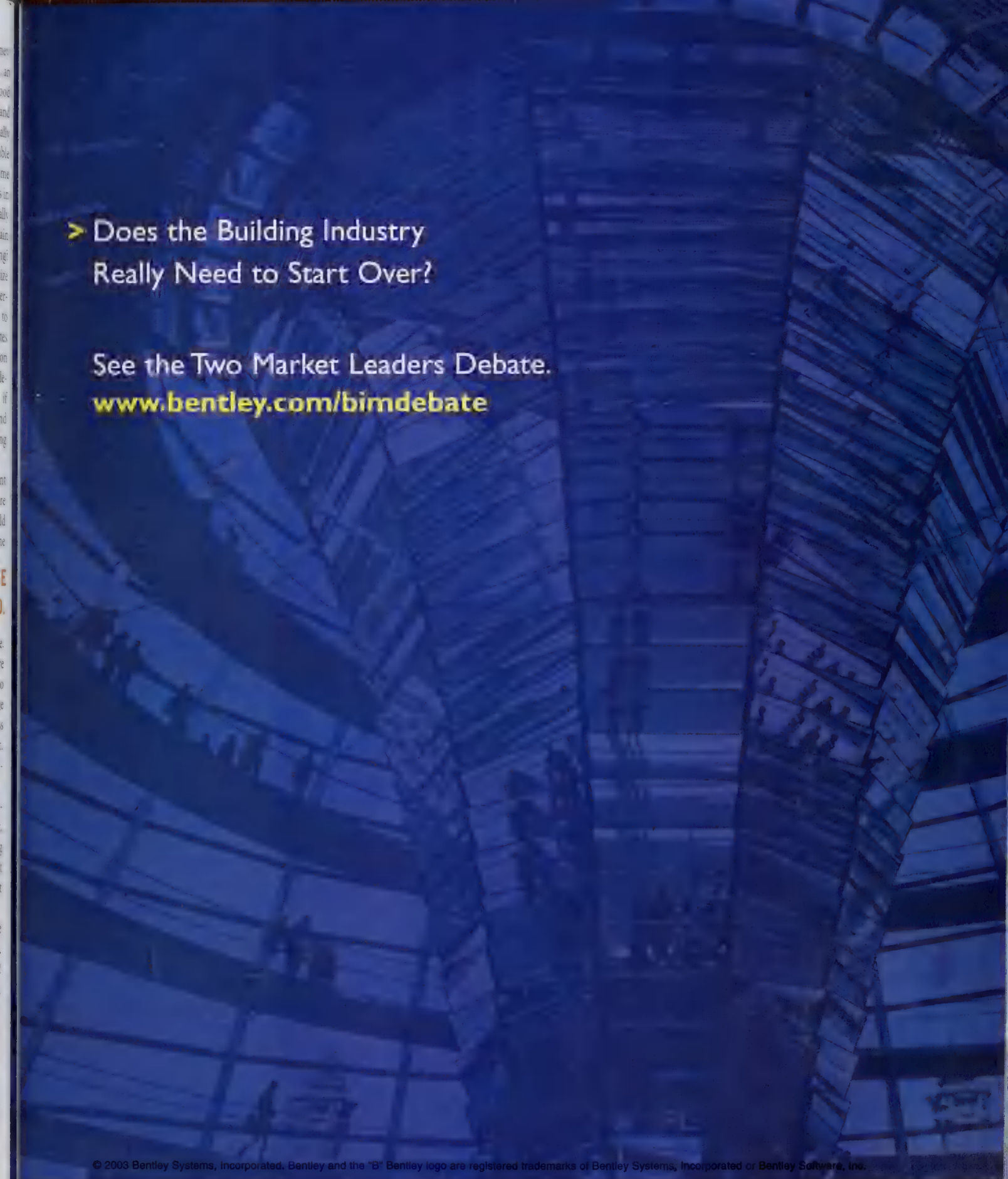
Challenging the easy response that people want what they are used to, many practitioners contend that there is no shortage of consumer demand for aesthetically bold design. Roberta Feldman, an architect and a professor at the

BETWEEN 1970 AND 2002, THE SIZE OF THE AVERAGE HOUSE EXPLODED.

University of Illinois at Chicago School of Architecture, points out that the problem is that, unlike other fields, there are no niche markets in mass-market housing. Although 5 to 10 percent of the house-buying public constitutes a large number, developers are unlikely to offer a product unless they are confident it will appeal to 90 percent of the public. This stance seems to be predicated both on industry traditions and the particulars of the economic risks involved.

A developer, Kiki Wallace, who is building stylistically adventurous houses in the new development of Prospect, Colorado, asserts that Modernism "is not a hard sell. Young people are looking for cutting-edge design. If there are cost savings, it will happen." Yet, short of something to jump-start such change, developer-trad may well continue to thrive.

Although prefabrication, particularly outside of the United States, is currently opening up aesthetic possibilities, perhaps the most promising shift is in computer-assisted and -controlled methods for designing and building. As Bryan Bell, director of Design Corps, a nonprofit group based in Raleigh, North Carolina, that provides low-cost architectural services to underserved populations, puts it, "On a mass-market level, innovation starts with industry and moves toward pure design." Some have noted, as has Joseph Rosa, the architecture and design curator at the San Francisco Museum of Modern Art, that in the past five years, digital production has evolved significantly and is now far more accepted by both architects and builders. Trade unions are increasingly open to these production techniques, as well. And architects besides Michael Bell [RECORD, April 2003, page 118], including Greg Lynn [RECORD, December 1999, page 104, and November

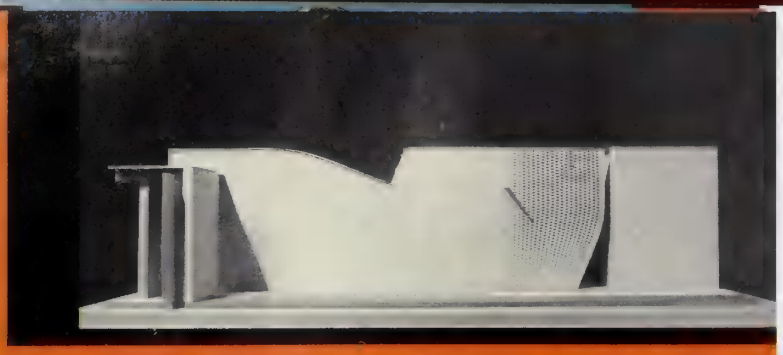


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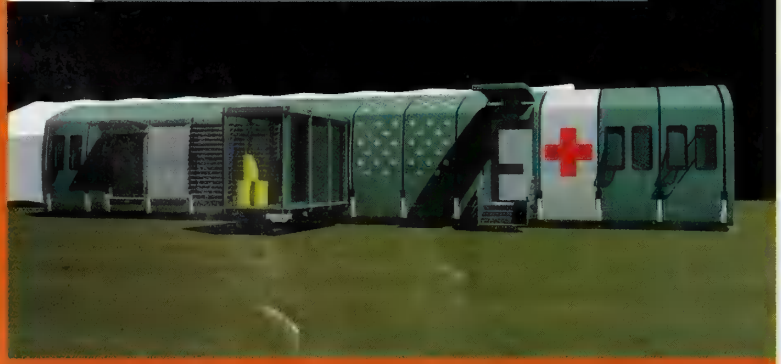
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Office dA's residence for artists in China (top) and the Macallen Building in South Boston (above) show technology is shaping the form and function of housing. Interloop A/D's Klip House (1998) uses mass-produced components. One of several potential uses is a medical post (bottom). A binder (below) serves as the housing's infrastructure.





2000, page 78], William Massie, Mark Rakatansky, and Office dA, are actively exploring new materials and building technologies for daring residential designs.

Chief among the innovations are a host of techniques made possible by computer numerically controlled machining, commonly referred to as CNC. Pioneered by the automotive and aeronautic industries, CNC is currently being used on a small scale in home building and promises to be more broadly adopted. Laser and water-jet cutting can reduce costs, in part due to more direct communication between architect and fabricator. And sophisticated CNC machinery is itself becoming more affordable: A CNC milling machine that cost $65,000 in 1985 might cost around $20,000 today.

One potential effect of CNC technology is what architect Scott Marble, of Marble Fairbanks in New York, calls "the change from mass production to mass customization." Structural insulated panels, known as SIPs, can be efficiently "edited" from a drawing put on a CD-Rom. Similarly, mass-produced windows can be economically built in nonstandard sizes through the use of CNC technology. William Massie, associate professor of architecture at Rensselaer Polytechnic Institute, in Troy, New York, notes that because of changes in construction, "increasingly, cost cannot be used as an excuse for poor results. In the near future, design will dominate construction, not the other way around."

When, exactly, is the "near future?" Michael Bell, associate professor at Columbia University's Graduate School of Architecture, Planning and Preservation, who in

COMPUTER-BASED MACHINING IS AFFECTING HOME BUILDING NOW.

1998 organized 16 architecture firms to design innovative houses for Houston's Fifth Ward [RECORD, April 2003, page 118], predicts, "Production as applied to architecture is about to change significantly. There will be a landslide of change in the next three years, with a far more serious integration of production and design than has existed previously. With so many architects looking to break the mold, we may witness a true paradigm shift."

Others, such as Mark Rakatansky, also a Columbia GSAPP faculty member, are optimistic that people in the building industry, not just architects, are ready to change. He points out, "The *Time* magazine success of Frank Gehry's work makes the computer-assisted generation of unconventional shapes and geometries, as well as the employment of new construction techniques, far more acceptable to developers." How and why mass-market products change can be difficult to determine; as Rakatansky adds, "A decade ago, who would have thought McDonald's would be serving radicchio?" Throughout the American economy, high-tech methods of production and distribution are continually being developed, and they in turn alter the way Americans live, regarding everything from food to music to health care.

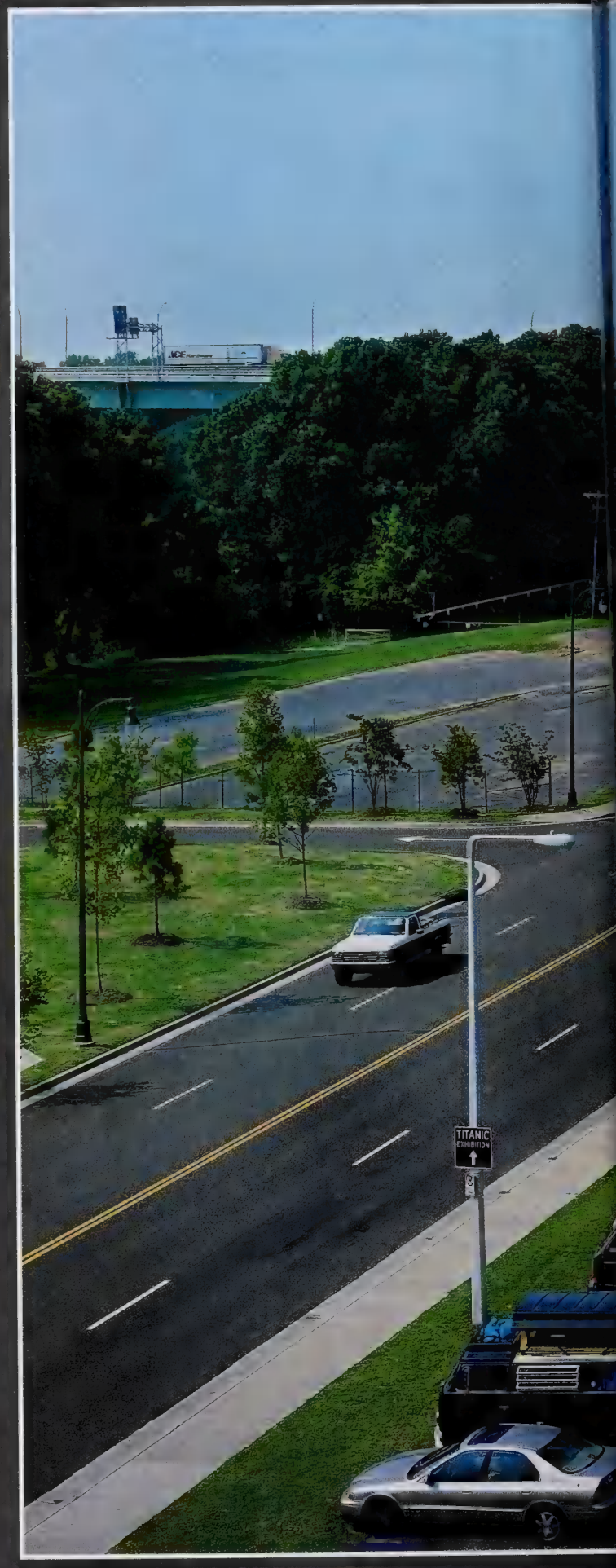
Will domestic architecture be next to change? The familiar will undoubtedly continue to have many adherents. Yet, for those longing to live in a "house of tomorrow," ongoing technological innovation may well mean that they will not have too long a wait. ■


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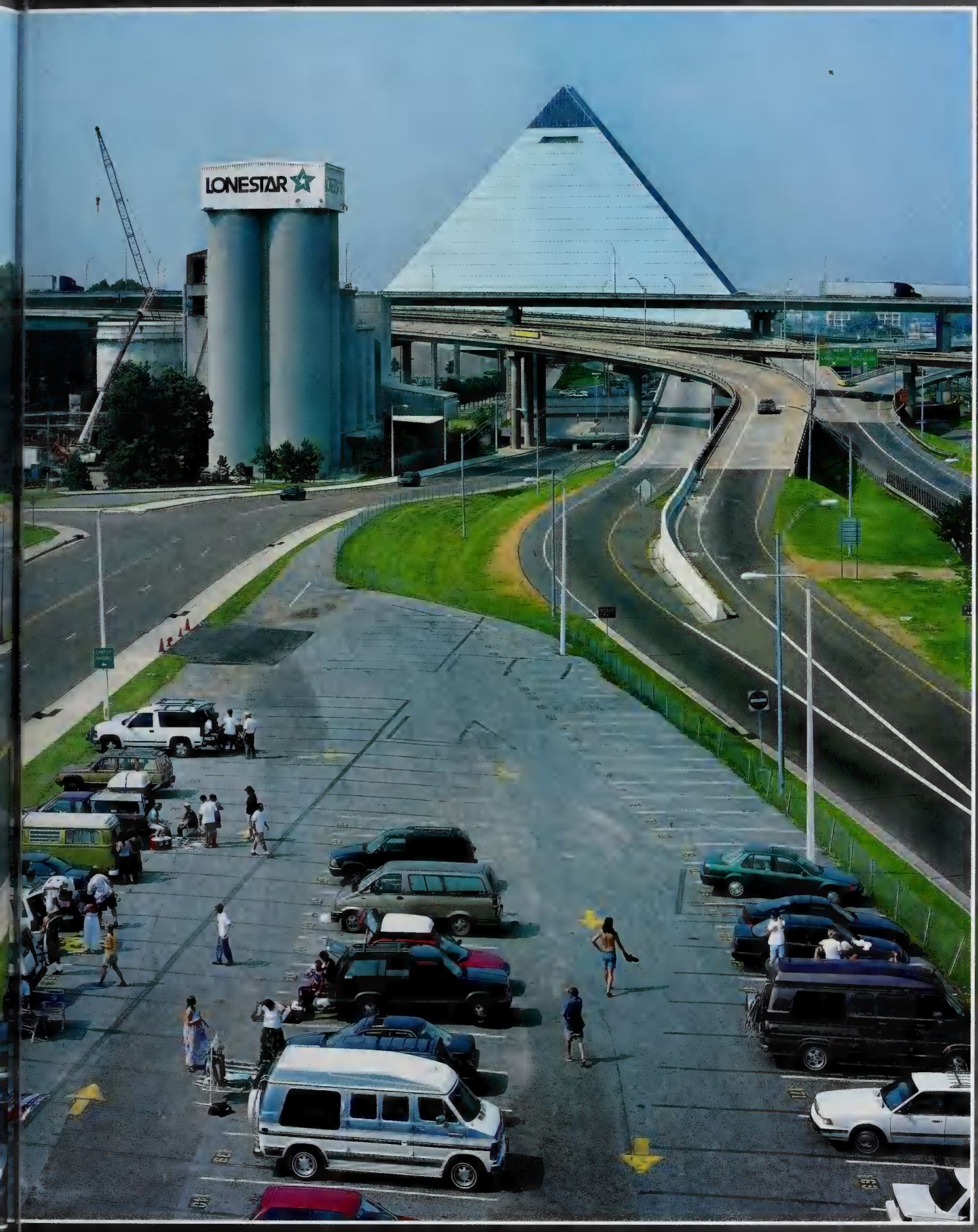
The Quirkiness of the Quotidien

Photographs by Joshua Lutz

Among those who have turned their critical attention to the everyday landscape in the modern world is Joshua Lutz, a New York photographer. Lutz is attracted to variegated spaces that illustrate how "our priorities have dictated the transformation of the land." With this in mind, he has captured on camera those unexpected moments when the quotidien takes on a certain quirkiness and, in some cases, a poignancy. This is particularly the case with Soldier Field, in Chicago, as shown by Lutz's photograph of the stadium before the current remodeling obstructed the view of its classical colonnade. Lutz is a graduate of Bard College (1997), where he studied photography under Stephen Shore before opening a studio in Manhattan. In the past few years his work has been published in *The New York Times Magazine*, *Newsweek*, *House and Garden*, and *Fortune*. Recently, he has turned his lens to Coop City, in the Bronx, and to the Meadlowlands sports complex, in New Jersey. As he says, "I want to challenge the viewer to reexamine the spaces we live in." *Suzanne Stephens*



Memphis on the Nile: Memphis, Tennessee, natives enjoy a tailgate picnic between two highways near the Pyramid Arena.


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My Grandparents:
A portrait taken in the early morning of former New Yorkers in their Mediterranean-style home in Boca Raton, Florida.


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Sienpost: A new apartment building looms over historic Scheveningen, a seaside resort in the Netherlands.


ARRIVEE
BUD LIGHT



Soldier Field: This view of the classical colonnade of the historic Chicago stadium designed by Holabird and Roche (1922–28) is blocked by the current remodeling.

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Strangely **Familiar**

By Suzanne Stephens

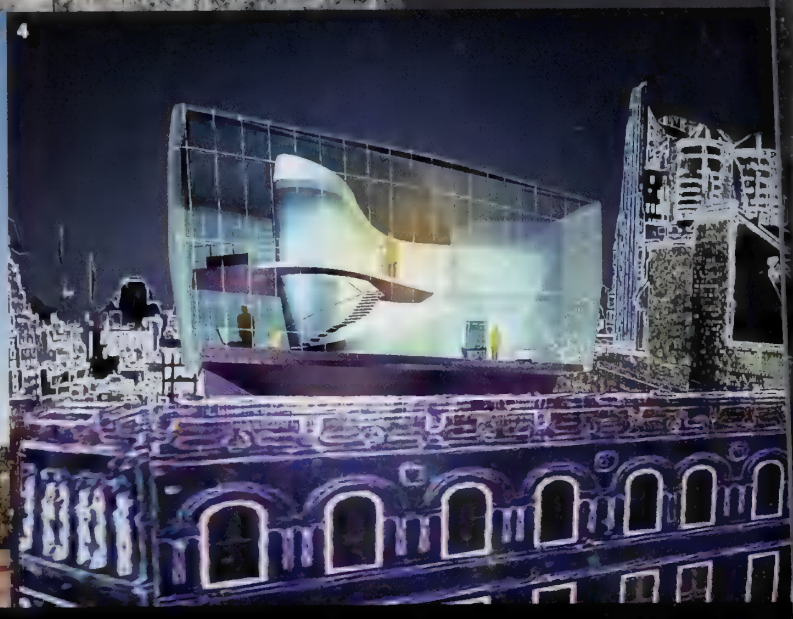
This seems to be the moment for innovative architects, and not without an ironic twist. Who knew that Daniel Libeskind—whose "City Edge, Berlin" project (bottom) was first seen by the American public in New York, in the 1988 Museum of Modern Art show, *Deconstructivist Architecture*—would be in charge of the master plan for the World Trade Center site 15 years later? His MoMA project, seemed then as close to reality as a Piranesian fantasy (top). Others in the



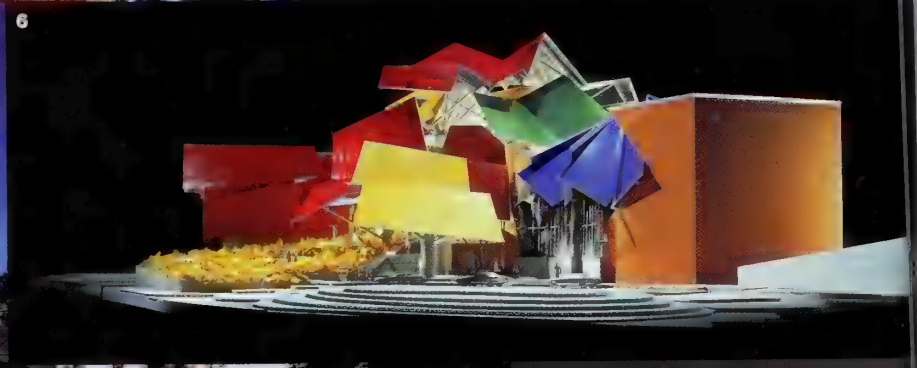


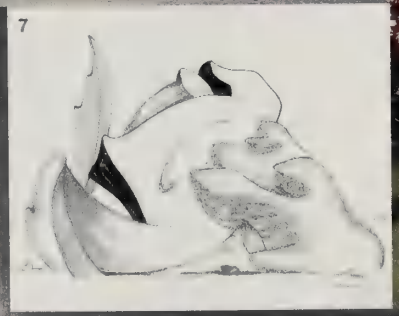
Strangely—all but one of these dra
were designed in the past five ye
old still has appeal, although thi
good moment for the avant-garde
even Samuel Coleridge called for
sense of novelty and freshness, w
and familiar objects." 1. Art Ins
Costa Rica, 2002, Greg Lynn FORM
2. Pool Pavilion, northwest Connec
2001, Bunny Williams; 3. Humanit
Building, Rice University, Houston,

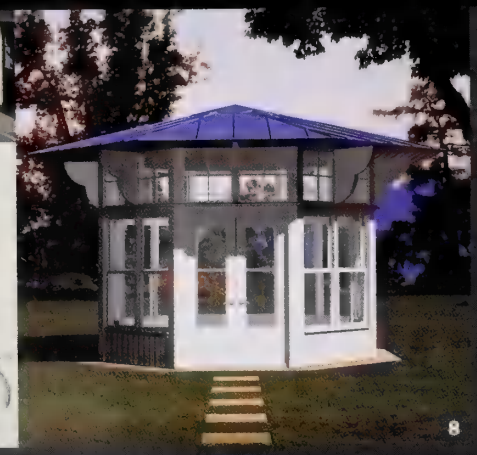












Allan Greenberg; 4. Urban Glass House
New York City, 1979, Bernard Tschumi
Architects; 5. Commission Villa, Regent's
Park, London, 2002, Quinlan Terry;
6. Puente de Vida, Panama Canal, 200
Gehry Partners; 7. Fantasy 1, 1915,
Hermann Finsterlin; 8. Pavilion, 2003,
Michael Graves for Lindal Cedar
Homes/Target

xhibition whose work seemed so far-out have fared well, too: Look at the lamor over the Guggenheim Bilbao by Frank Gehry, FAIA, in 1997. And ow comes the hoopla surrounding the opening of Gehry's performing rts center at Bard College (page 106), not to mention Zaha Hadid's Contemporary Art Center, which just opened in Cincinnati.

And announcing the avant-garde moment is *The New York Times Magazine*'s "Tomorrowland" issue (May 18, 2003), in which projcts by Rem Koolhaas, Coop Himmelb(l)au, Kolatan/MacDonald, Steven Holl, AIA, and Thom Mayne, AIA, among others, are enthusiastically presented. As writer Arthur Lubow exclaims, architecture's "widespread appeal evokes comparison to a pre-Modernist Eden, when Verdi was a popular hero and Dickens a best-seller."

Does this really mean that the public is ready to fully embrace hose architects pushing the boundaries of architecture (and construcion)—or is it just a media flirtation? After all, it's happened before. Architecture is periodically "discovered" by the general audience media, and then summarily dismissed. (Remember when Postmodernism was heralded by *Time* magazine's 1979 cover of Philip Johnson holding the model of the AT&T building?)

Paradoxically, the current hubbub over the avant-gardies occurs even when much of the American populace remains entrenched in its predilection for traditional design, particularly with houses. If the public can't buy the "real" thing (from the 18th, 19th, or early 20th century), the new knockoff will do, and is often preferred, since modern improvements are built in (see "The Gap Between the Promise and the Prototype," page 74). Not only are traditional houses favored: Many colleges and universities have embarked on serious programs to bring the Classical and Gothic styles back to campus. Indeed, Princeton University's recent decision to have Demetri Porphyrios of London evoke its Collegiate Gothic quad style for the design of a new dormitory has drawn the ire of architects such as the always avant-garde Peter Eisenman.

Porphyrios is not alone in his strong allegiance to past styles. A subculture of Classicist architects, including Allan Greenberg, AIA, in Washington, D.C.; Quinlan Terry, and—an unusual variant—John Outram, in England; or Leon Krier, now in southern France, continue to find very supportive clients, as do Michael Graves, FAIA, in Princeton, New Jersey, and Robert A.M. Stern, FAIA, in New York. The Classical creed is disseminated stateside through such organs as the School of Architecture at the University of Notre Dame, in Indiana, and the Institute of Classical Architecture and Classical America, in New York. Donald Rattner, a New York architect who helped found the Institute for the Study of Classical Architecture in 1991, argues, however, that the Classical language has become too static and a "new synthesis" is required (see Letters, page 21).

Understandably, the familiar is comfortable and reassuring, particularly in periods of rapid change. At the same time, says Fred Gage, professor at the Laboratory of Genetics at the Salk Institute for Biological Studies, La Jolla, California, "We are novelty-seeking beings." Novelty, he explains, causes arousal in the brain, whether it's positive or negative. This arousal, which can come from the architectural environment, is important, he stated in a keynote address given at the AIA's annual convention in San Diego in May, because the stimulation of the adult brain may help generate new brain cells as one ages. "The environment—the structures we live in—affects our brain and our behavior," Gage told the assembled architects. "It's time we work together to find how to collect information we can all use to live in a better and more effective environment." Gage's comments marked a new initiative of the AIA to create the Academy of Neuroscience for Architecture, which is being set up by the San Diego Architectural Foundation and the local AIA chapter. According to John Eberhard, FAIA, the director of research and planning at the AIA, it will bring together architects and neuroscientists to investigate specific influences of the environment on the brain.

The implications are interesting. Seeking novelty needn't be shrugged off as a desire to be fashionable—especially if it is naturally stimulated by shifts in sociocultural conditions. As the current generation of creative architects attests, worthwhile innovative efforts respond to changes in living patterns, culture, and new materials and building techniques, not to mention the possibilities presented by computerized design. Yet the feverish attraction for today's avant-garde expression can also fade: With replication and repetition, the new and challenging eventually gets stale. Or, as Louis Menand more accurately put it in *The New Yorker* (March 24, 2003), "Every paradigm contains the seed of its own undoing."

Why not accept a both/and situation—as Jean La Marche explores in *The Familiar and the Unfamiliar in 20th Century Architecture* (2003)? Neuroscientist Larry Squire, of UC San Diego School of Medicine and San Diego's VA Medical Center, points out that a tension between novel and familiar environments is desirable—one to stimulate the brain and keep it active, the other to help it focus on matters at hand. Hence the familiar, per se, need not be dismissed as mind-numbing and boring. The familiar and the comfortable clearly have a place, for they provide a haven to assimilate the new. We profit from learning from history and tradition, and by being grounded by them.

This said, even the familiar is more interesting when it challenges us to think and look in new ways. On the following pages we present architectural designs that celebrate the familiar—but with a twist. The projects all make use of known architectural elements and forms, but handle them unconventionally. Frank Gehry's performing arts center at Bard College, in the Hudson Valley in New York (page 106), juxtaposes unfamiliar shapes (if increasingly familiar to the cognoscenti) with very everyday, even banal, boxy buildings to make us rethink our definition of architecture.

The renovation by Wendy Evans Joseph, FAIA, of the top floors of Frank Lloyd Wright's Price Tower in Bartlesville, Oklahoma, into a hotel (page 118) shows respect for the master's now very familiar iconic work (once viewed as an alien object by the community). Yet, in designing the furnishings and the fittings for the hotel and restaurant, Joseph eschewed replicating Wright's style and subtly established her own design identity.

At first glance, the Irish Hunger Memorial in New York's Lower Manhattan, by artist Brian Tolle and 1100 Architect, looks very familiar, even kitschy, like an Irish potato field dropped into Battery Park City (page 102). But the juxtaposition in this context makes you look again, as does the very abstract Modernist base that contains the entrance to the memorial itself.

With the design of a hall for St. Edward's University, in Austin, Texas, Andersson-Wise was expected to defer to the Texas Victorian context (page 94). The architects chose to do so by designing seriously abstracted forms that evoke associations with other historic—but more modern—works by Charles Rennie Mackintosh and Louis Kahn.

In the case of the DOMA Gallery in Maryland (page 126), Barbara Wilks, FAIA, takes an old, dilapidated barn and inserts a pristine Miesian glass box into it. The conjunction of a familiar icon of the American vernacular with a familiar icon of Modernism generates a provocative, dynamic result. The intersection yields an unexpected play of light and shadow, and of shaggy textures and sleek surfaces. It is a sophisticated exercise where a sense of fragility and stability are in constant counterpoint. These and other strangely familiar projects are arresting because they make us think about our perceptions and our preconceptions. They demonstrate how the tension between the familiar and the novel can enrich our environment, and stimulate our minds. ■



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nce, below right).

For **TRUSTEE HALL** at St. Edward's University, in Texas, **Andersson-Wise Architects** deftly abstracts the traditional

By David Dillon

The first building in a new millennium carries cachet; the first building in a new master plan carries the burden of proof. Every detail, good or bad, becomes a potential precedent. Andersson-Wise Architects wrestled with this dilemma in designing Trustee Hall at St. Edward's University, in Austin, Texas, a small (4,200 students) Catholic school with aspirations of doubling its enrollment in 10 years.

Sited on the highest point in the city, the university overlooks downtown in one direction, and hill country with a fringe of the coastal plateau in the others. At the center of campus stands a pair of turn-of-the-century masonry buildings by the revered Texas architect Nicholas Clayton: The heavily rusticated and fancifully towered Main Hall and the somewhat plainer and blunter Holy Cross Hall. Together, the two structures established a hierarchy and material palette that prompted a response from every architect subsequently building on campus.



In the larger arena, different architects have parsed the precedent issue in different ways. The go-for-the-bold faction, the Gehrys and Eisenmans of the profession, like to challenge convention and tradition by introducing unfamiliar forms and materials that cut against the prevailing vernacular. Confrontation rather than complaisance is the name of that game, and such campuses as the University of Cincinnati [RECORD, February 2000, page 81] document the results, each with a roster of well-known architects, and every building generating its own context.

The more conciliatory approach merely tweaks the architectural status quo, thereby reinforcing the sense of continuity and tradition so dear to alums—and for which they are often willing to pay generously. Theme and variations instead of *Sturm und Drang*. Yale, Princeton, and the University of Virginia come immediately to mind.

St. Edward's stands firmly in the context-and-continuity camp. "Originality for the sake of originality is not our goal," its new master plan states. "Appropriateness is." The document warns against buildings conceived of as "isolated elements" and recommends that new designs "have roots firmly planted in history and place." In practi-

David Dillon is a contributing editor to RECORD *and the architecture critic of* The Dallas Morning News.

Project: *Trustee Hall, St. Edward's University, Austin, Texas*
Architect: *Andersson-Wise Architects—Arthur W. Andersson, AIA, F. Christian Wise, AIA, principals; Christopher Sanders, Adam Pyrek, Vincent Moccia, Erlene Clark, Tim Dacey, Jim Moore, Grant Rimbey, project team*
Engineers: *Architectural Engineers Collaborative (structural); Aguirre Corporation (m/e/p); Baker-Aicklen (civil)*

cal terms, these guidelines mean brick and stone, deep windows, and pitched roofs—preferably red—and an assortment of sporty towers and cupolas rising tall against the sky. And, as the document suggests, the school trustees intend to remake the university's image by replacing "marginal" buildings from the 1950s and 1960s—signs of an institution in perpetual transition, in their view—with ones that "balance individual expression with an appropriate contextual response."

Some of the most recent structures, including Trustee Hall, will form the edges of new academic quadrangles, designed to reinforce the campus's pedestrian character. "The trustees kept reminding us that the Clayton buildings stood at attention with good posture," recalls Arthur Andersson, "and that ours should do the same."

Programmatically, Trustee Hall is clarity itself: 12 classrooms, 20 faculty offices, and 3 computer labs, all clustered in a corner tower. For the materials, the architects said no to Texas limestone, which appears everywhere in Austin, because of its relatively high cost and the false sense of importance they felt it would have given the building. They chose instead a soft, hand-formed Mexican brick, similar in color to the Austin Common brick that Clayton had used on Holy Cross Hall, but with a richer texture. Arthur Andersson and Chris Wise also acceded to the demand for a red metal roof, though their version is simpler and slightly flatter than its neighbors. Three copper-covered exhaust stacks rising from the roof directly above the computer rooms offer a crisp, contemporary response to the stone turrets of Main and Holy Cross Halls. The most dramatic departure from the campus vernacular is the concrete south facade, which picks up the color and some detailing of Main, yet is unequivocally modern in its finish and construction—with huge, monolithic slabs. "Concrete is a 2,000-year-old material," says Wise, "but we used it to show how buildings are made today."

THE MONOLITHIC SOUTH FACADE IS THE MOST DRAMATIC DEPARTURE FROM THE CAMPUS VERNACULAR, WHICH IS UNEQUIVOCALLY MODERN.

In addition to showing "good posture," the facade supports a network of exterior corridors, balconies, porches, and staircases. When classes are in session, it becomes a gigantic theater set punctuated with surprising entrances and exits for students and faculty. Compared to it, the other elevations seem formulaic.

Inside, the bones of the building show through in concrete floors and raw concrete columns, accented with simple metal railings and window frames. Utility and efficiency are the





Computer labs and classrooms occupy a nearly windowless brick tower, which is distinct from the rest of the building (left). Metal detailing of staircases and window frames appear uniformly simple and direct (above). Trustee Hall (opposite, top) helps define the campus's new north edge. As seen in nearby Holy Cross Hall (left and opposite, bottom), red metal roofs are a staple of the St. Edward's vernacular. Austin's relatively mild climate allowed the architects to put much of the circulation on the building's exterior.



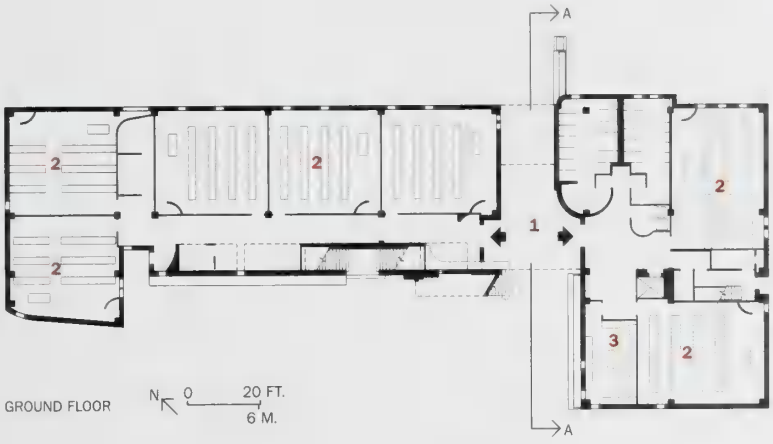


A 5-foot-wide space—wide enough for staircases, balconies and landings—separates the south facade from the main volume of the building.





THIRD FLOOR



GROUND FLOOR

1. *Loggia*
2. *Classroom*
3. *Computer lab*
4. *Copier*
5. *Lobby*
6. *Reception*
7. *Office*
8. *Secretaries*
9. *Kitchenette*



SECTION/ELEVATION A-A



The view from the top of the main staircase (above) includes the campus chapel and a statue of St. Edward, the university's patron saint. Simplified versions of Clayton's pointed-arched windows link out onto the campus, with the building's exterior layers creating a cloister-like effect (right).



Mexican brick on the Trustee Hall's north facade is punctuated by clusters of tall, narrow windows (left). This fenestration reduces the volume's potential stockiness without destroying its sense of weight and mass. The hall's central staircase appears through a large, multistory window (center at left). The interiors (below) are extremely spare, with polished concrete floors and exposed concrete columns. Small seating niches along the corridors provide places to rest or gather.

themes, especially in the classrooms. Yet the overall mood is calm and reflective, almost like a cloister, where architecture helps turn the mind inward on itself. Except for pointed-arched windows, a too-obvious reference to Clayton, the effects are not forced.

Andersson and Wise started out working for Charles Moore in the 1980s, learning the subtleties of collaboration and the importance of focusing on people instead of ideology. Yet these architects show far more interest in construction than did their mentor. Moore was a teacher and proselytizer, who liberated several generations of young architects but didn't know or care much about actual building. By the time construction started, he was usually onto something else, leaving the details for others to work out.

Andersson-Wise takes a more pragmatic approach. If some of the firm's earlier projects, such as Washington State History Museum [RECORD, October 1996, page 70], were awkward compromises between memory and invention, Trustee Hall is not. It is neither superficial nor narrowly mimetic. With a few exceptions, details borrowed from surrounding buildings are flattened and abstracted into something more contemporary. The monolithic south elevation, facing the center of campus, is more Kahn than Clayton. And unlike many buildings with a Postmodern pedigree, Trustee Hall looks built to last. ■



Sources

Structural system: *CIP Concrete Pan Joist System*
Exterior masonry: *Ladrillerias El Fuerte*
Concrete: *Phoenix Concrete; Capitol Aggregates; Peri Formwork Systems*
Roofing: *Siplast Pardiene (elasometric); Berridge (metal shingles)*
Doors: *Kawneer (entrance); Steelcraft (metal); Mohawk Door (wood); Smoke Guard (fire control)*
Hardware: *Corbin Russwin (locksets); Hager (hinges); LCN (closers); Von Duprin LCN (exit devices); Kawneer (pulls); Blum, Accuride, Hafele (cabinet hardware)*

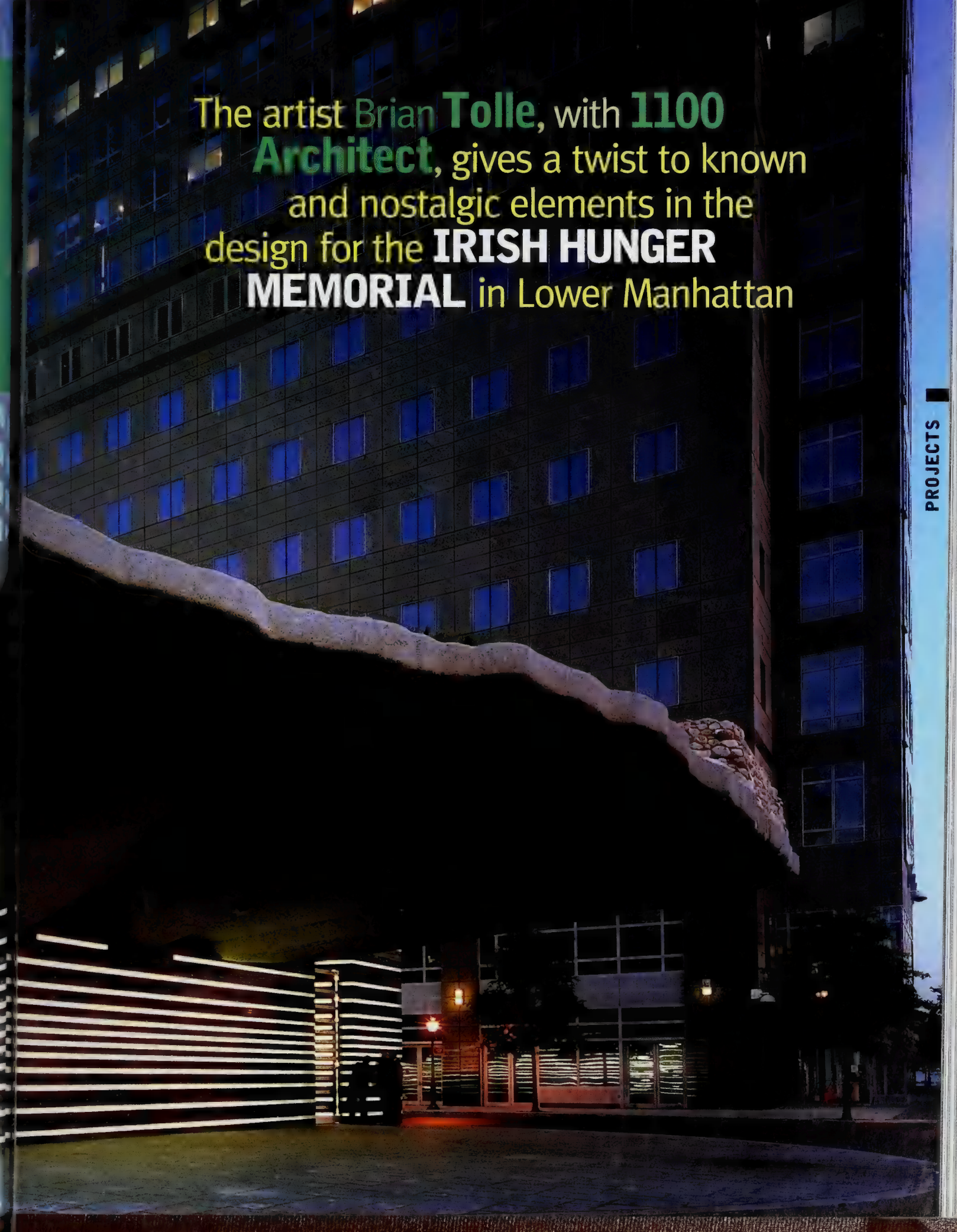
For more information about this project, go to Projects at **www.architecturalrecord.com**.



The curving central stair is a sculptural piece in an essentially rectilinear environment.



In Battery Park City, the Irish Hunger Memorial rivets the attention of passersby surprised by its soil, boulders, and wildflowers (left). The landform rests on a concrete slab that tilts surrealistically upward toward the Hudson River, where the main entrance is located.



The artist Brian **Tolle**, with **1100 Architect**, gives a twist to known and nostalgic elements in the design for the **IRISH HUNGER MEMORIAL** in Lower Manhattan

Cynthia Davidson

As apartment towers continue to rise above the landfill of Battery Park City, bringing prosperity to a waterfront once the home of rats and rotting piers, a memorial to hunger seems incongruous at best. Manicured park grounds, meticulously maintained paving, iron fencing, and solid brick buildings give way to a rustic slope of wildflowers and grasses. This other landscape mysteriously rises off the ground across the street from the buttoned-up brick Embassy Suites Hotel. One wonders, what is this thing, so out of place, yet uncannily so perfectly out of place? So familiar, yet so unfamiliar? So absurd, yet so intriguing?

This is the Irish Hunger Memorial, designed by artist Brian Tolle in association with 1100 Architect and landscape architect Gail Wittwer-Laird. Theirs was the winning entry in a five-team invited design competition in 2000 for a site donated by the Battery Park City Authority. The scheme, as Juergen Riehm, AIA, of 1100 Architect says, is meant to communicate how conflicts and natural disasters affect the land in ways that lead to hunger. Ironically, even this quarter-acre of well-maintained "land" has already seen its difficulties. Dedicated in July 2002, it underwent extensive repairs this spring due to the overuse that came with success-and to a particularly hard New York winter.

When Tolle made a research trip to Ireland during the competition phase, he was struck by "the power of absence" in the abandoned villages, and by the layers of geological history in the cliffs along the sea. The challenge, he says, was to drop a physical reminder of the famine and poverty that occurred in mid-19th-century Ireland across from a $300-a-night hotel and cineplex. "The piece wouldn't be believable as a landscape," Tolle notes. "It had to become a sculptural object." There also needed to be, he adds, the "comfort of recognition" in the memorial—a "familiarity"—as well as things "to disturb" that recognition.

With a hotel as an immediate neighbor, the memorial naturally attracts tourists. All of the elements of tourism kitsch are present: "a piece of the old sod," a reconstructed abandoned roofless cottage from County Mayo, buttercups typically rubbed on cows' udders on May Day, even the gentle roll of potato drills, and walls built with stones from every county in Ireland. What raises the memorial above the kitsch and gives it meaning is the tension generated through the designers' integration and juxtaposition of these elements with the strikingly modern, striated base of backlit acrylic glass and fossilized gray Kilkenny limestone. This monumental base, Riehm says, is also a container for accumulated, and accumulating, history. It supports the plane of sod, gives entry to the cottage and the field, and provides a surface for the stories that had to be included in the memorial—the writing on the walls.

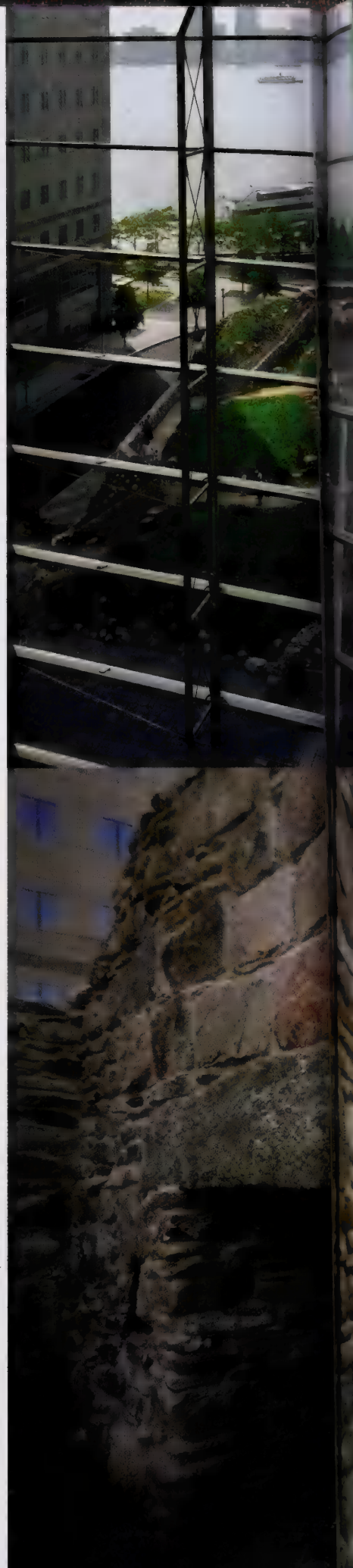
PLAYING THE KNOWN AGAINST THE UNKNOWN CREATES THE AMBIGUITY NECESSARY FOR A WORK OF ART.

Playing the known against the unknown creates the ambiguity necessary for a work of art. In its strange familiarity—it is convincingly "a piece of the old sod"—the Irish Hunger Memorial invites viewers to approach the illuminated bands of text, to enter the western ramp and the rebuilt fieldstone cottage, and through a contemporary experience gain some understanding not only of the events of 1845–50 in Ireland, but also of the effects of hunger throughout the world then and today. Despite the obviousness of its symbols, such as the empty cottage and abandoned potato field, and its strangeness to the Battery Park City landscape, the memorial's aspect of the familiar in no way tempers the hardship of the Irish famine. Rather, the ragged edge of the concrete platform reinforces the idea that this bit of land was ripped from the hills of Ireland, as were the people who were forced to emigrate to survive. Its very presence disrupts the familiar landscape of plenty to remind us that hunger—and art—is simply a matter of degree. ■

Cynthia Davidson, the former editor of Architecture New York, *writes frequently for* ARCHITECTURAL RECORD.

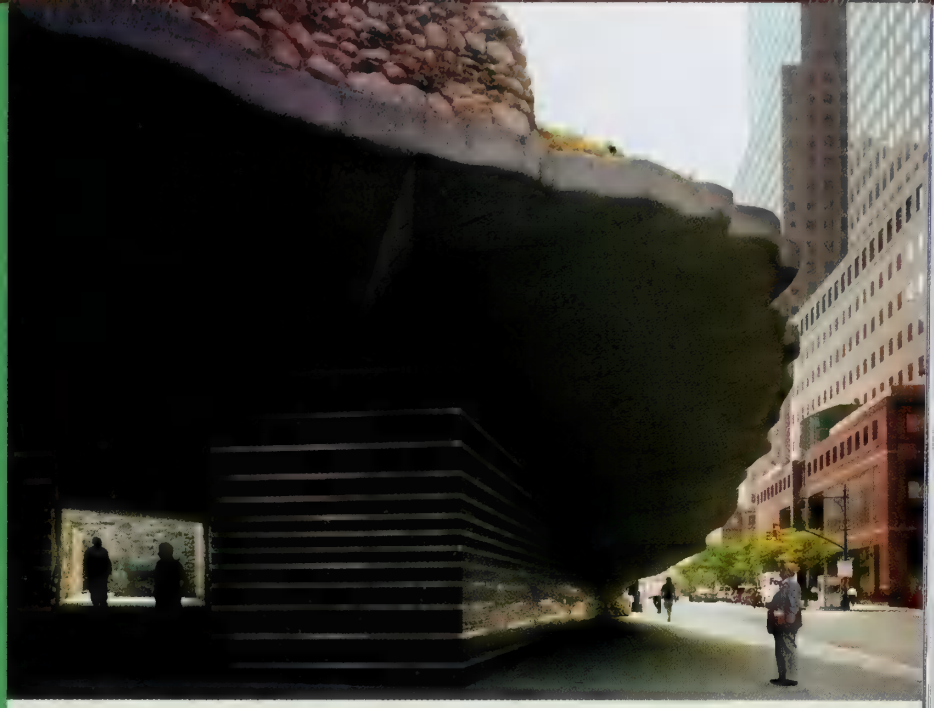
Project: *Irish Hunger Memorial, Battery Park City, New York City*
Designers: *Brian Tolle (artist); 1100 Architect—Juergen Riehm, AIA, and David Piscuskas, AIA; Gail Eileen Wittwer-Laird (landscape architect)*
Client: *The Hugh L. Carey BPC Authority*
Structural engineer: *Robert Silman Associates*
Graphic design: *Piscatello Design Centre*

For more information about this project, go to Projects at **www.architecturalrecord.com**.



PHOTOGRAPHY: © PETER AARON/ESTO

The winning scheme by artist Brian Tolle and 1100 Architect for a memorial to the Irish potato famine of 1845–50 combines literal and abstract references, including a reconstructed roofless Irish limestone farmhouse (left and below right). The entrance to the memorial (right) is under a 35-foot concrete cantilever on Vesey Place. A passage in the concrete base is lined in fossilized Kilkenny limestone and striated backlit acrylic glass inscribed with pertinent texts. Beyond are the open-air ruins of the stone cottage (below).



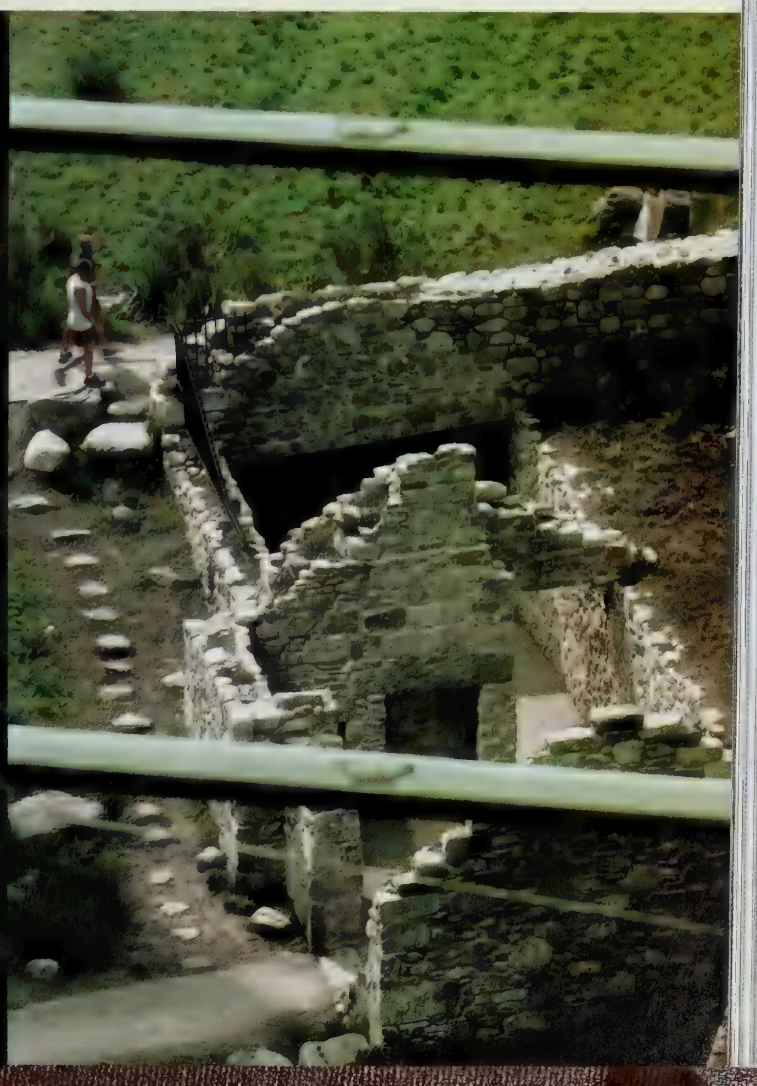
1. *Entrance*
2. *Passage*
3. *Stone cottage*
4. *Slab foundation*
5. *Fill*



LONGITUDINAL SECTION LOOKING NORTH

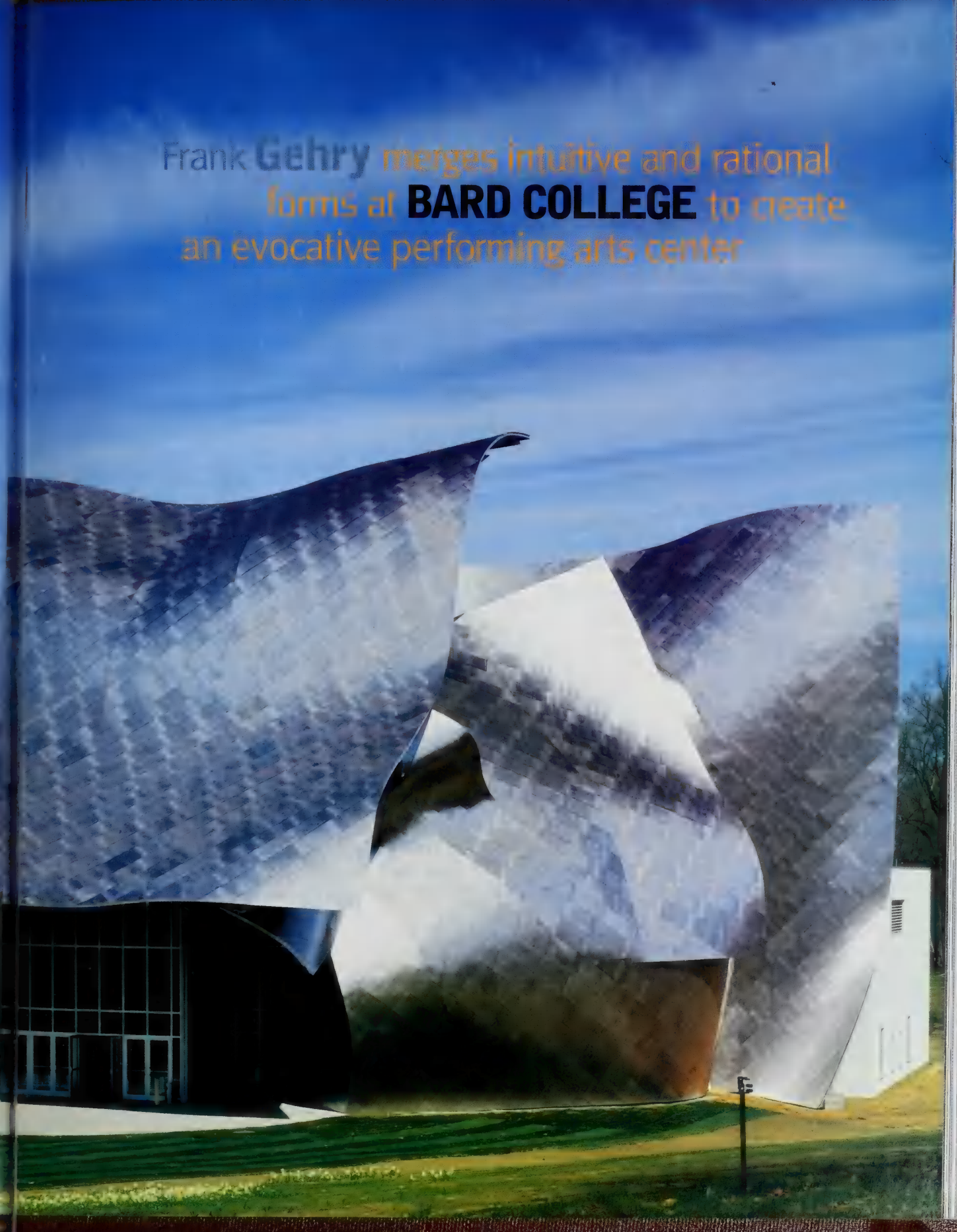
0 10 FT.
3 M.







As one approaches the Fisher Center for the Performing Arts at Bard College via a winding drive, the main hall (right) appears to be an indeterminate size—grand in relation to people, small in comparison to the surrounding pastoral landscape. Next to it (above), the second theater, with its low, swooping roof, seems downright cozy.


Frank Gehry merges intuitive and rational
forms at BARD COLLEGE to create
an evocative performing arts center

By Suzanne Stephens

The strange, the sublime, the familiar, and the banal come together in a compelling and provocative manner in Frank Gehry's recently completed Richard B. Fisher Center for Performing Arts at Bard College. Located in Annandale-on-the-Hudson, the center is nestled in a bucolic setting on the northern edge of Bard's campus, some 90 miles from New York City. The complex of two buildings—where the main auditorium and a second theater are enclosed by the bold, sculptural contours of the stainless-steel cladding over a base primarily of poured-in-place concrete—is simultaneously monumental and picturesque. The evanescently undulating forms of the shiny carapace are by now familiar to many, especially after the resounding reception given Gehry's titanium-wrapped Guggenheim Bilbao [RECORD, October 1997, page 74]. But Bard boldly displays a "Queen Anne front" and a "Mary Ann behind," to borrow a phrase from a song by the late architect and composer Robert Schmertz.

This amalgam of architecturally organic forms gives way to just plain old building as one moves past the abstract swirls of metal spilling down over the two halls to the back parking lot, where the rectilinear structures prevail. True, the boxy portions, mostly poured concrete, partly concrete block, have a white stucco finish that lends more polish than the beige brick or gray concrete block backside of a shopping center. Nevertheless, the blocky rear elevation makes one think of Venturi and Scott Brown's "decorated shed," where a "sign" or facade is appended to a box—a Gehryism noted elsewhere by Joseph Giovannini with regard to Bilbao's less prominent west facade. Yet, there is a major difference between Venturi, Scott Brown's approach and Gehry's. Gehry has gone past the facade into an extensively three-dimensional, expressionistic realm. He has melded both the decorated shed and what to Venturi and Scott Brown was its reviled antithesis—the symbolic "duck."

THE BARD CENTER EMBODIES BOTH GEHRY'S ASPIRATIONS TO ARCHITECTURE AND THE FUNCTIONALLY MODERN ORIGINS OF HIS OEUVRE.

Because of such an admixture, some argue that this is not truly "Architecture." Yet Gehry's merging of expressionist "duck" and the Modernist "shed" is extensive—and honestly stated. The result is that the center looks like a butterfly not quite separated from the cocoon. The latest of Gehry's spectacularly shimmering metal-clad creations embodies both his aspirations to architecture and the humble, boxy, functionally Modern origins of his oeuvre. No matter how sculptural Frank Gehry's buildings are, they begin with a box, as the models piled around his Los Angeles office attest. He uses dumb, boxlike constructions to work out programmatic requirements and scale relationships, along with the organization of the masses on the site, before he starts sketching and then manipulating the sinuous skin [RECORD, May 1999, page 187].

At Bard, the shiny curving metal roof, so distracting (so attracting), still does not seem intended to conceal the concrete and concrete block real stuff poking out at the large end of the 107,612-square-foot complex. "Architecture" for Gehry is a "both/and" proposition (to borrow from Venturi and Scott Brown again)—both the fancy cloak and the clunky body.

Gehry had originally designed the center—with the main auditorium for 900, plus a black box theater next door for 300—for a site adjacent to the two existing arts buildings on Bard's architecturally polyglot campus. However, preservation groups nearby, including financier and preservationist Richard Jenrette, kicked up a fuss. The area, known for its dramatic ravines, waterfalls, and forests, had inspired the Hudson River School of painters in the 19th century to memorialize its beauty. Much of the natural setting remains, including the grounds of Montgomery Place, with its superb 1805 Federal-style manor house. Gehry's first center squatted in a ravine at the edge of the property adjoining Montgomery Place. Its fly space shot up about 100 feet in height (although only 88 feet would have been visible due to its low site). Bard needed

Project: *The Richard B. Fisher Center for the Performing Arts at Bard College, Annandale-on-Hudson, New York*
Architect: *Gehry Partners—Frank O. Gehry, FAIA, principal; Randy Jefferson, AIA, project partner; Craig Webb, project designer; John Bowers, project architect; Tadao Shimizu, assistant project architect*
Acoustic designer: *Nagata Acoustics—Yasuhisa Toyota (room acoustics); Robert Mahoney and Associates (assistant to Nagata)*
Consultants: *DeSimone Consulting Engineers (structural); Cosentini Associates (m/e/p); Morris Associates (civil engineering); Olin Partnership (landscape); Theater Projects Consultants (theater)*

Gehry's intriguing play of both abstract and quasi-figurative elements constantly attracts the eye: The main building's roof looks like a crouching rabbit with a large, shiny metal carapace blanketing its haunches (opposite, top). At night it takes on an eery glow when light emanates from within the main hall. In contrast, the second theater (opposite, bottom, at left) looks like an abstracted version of an English cottage by Voysey, only in stainless steel, not thatch.

PHOTOGRAPHY: © PETER AARON/ESTO







The animated form so visible from certain viewpoints disappears from others. Along the eastern face (this page), the steel frame supporting the stainless-steel cladding is explicitly revealed, as it is from the outside of the first theater (opposite).

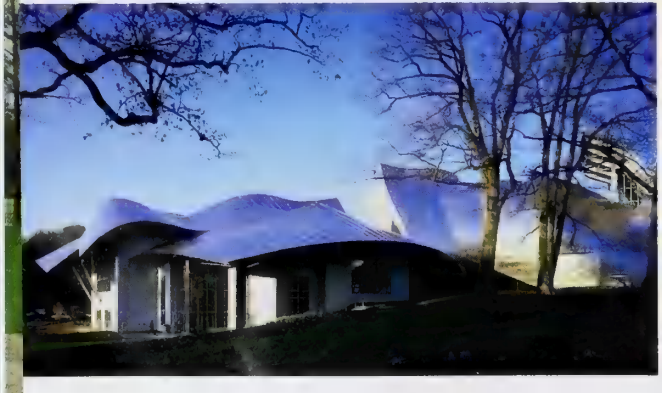




A Queen Anne front gives way to a Mary Ann behind at the Bard center, as you gradually move around to the back (above and left). Blocklike stuccoed walls poke out from under the shiny steel skirt facing the parking lot, and soon associations generated by the sculptural front are ripped away by the strictly business rear.

a variance from the 35-foot height restriction, and the preservationists argued that the back of the building would be too visible from many vantage points. Ada Louise Huxtable described it in the *Wall Street Journal* (November 24, 1998) as the Bard center's "most massive, uncommunicative, and forbidding elevation." Ultimately, the town did not issue a permit.

The center had to be moved to the north end of the 550-acre campus, and more money spent—$62 million rather than the original $25 million—to include some spaces that could otherwise have been located in the existing arts buildings. In one of those rare happy endings where everyone wins, the new location proved quite acceptable to the preservationists, and particularly propitious for Gehry's design. Now the center has its own ample space around it. Just in the way the new center doesn't spoil the view for preservationists, visitors who desire to see the Gehry in full metal jacket don't have to pick it out among a clutter of less distinguished college buildings.

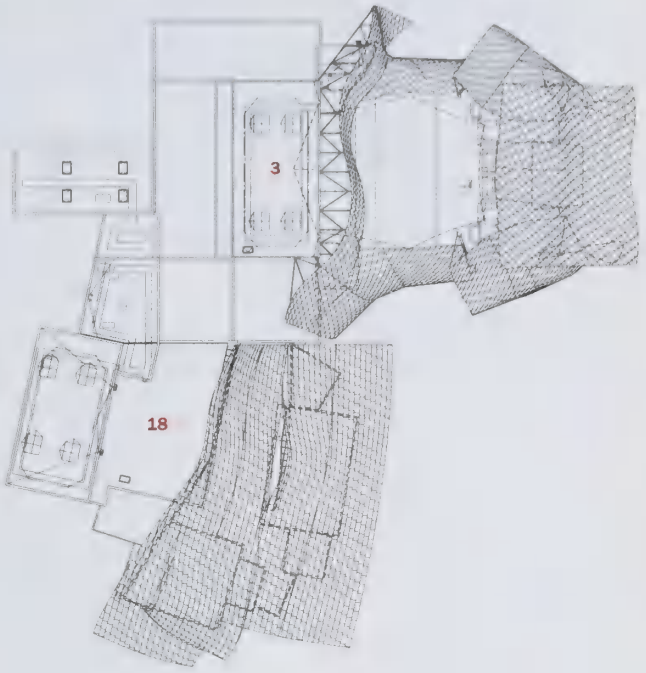


Gehry's interior consciously keeps up the rich man/poor man feeling of the exterior. The main auditorium, known as the Sosnoff Theater, is sleekly lined in Douglas fir with a horseshoe shape that offers an elegant, if understated, counterpoint to a rugged, exposed-steel-frame and concrete lobby. The walls of the auditorium proper are concrete, with fir covering the two-levels of balconies and a Gehry-designed pattern of linear laminated fir strips applied to the walls. Because of the variety of performances slated for the Sosnoff, the 80-by-40-foot stage has a fly space for scenery and a forestage with hydraulic lift. The forestage lift is lowered for opera productions, creating an orchestra pit for 80 musicians. For other performances, the stage lift can be raised and the stage extended from 40 to 52 feet.

The auditorium, like the rest of the center, reflects the commitment of Leon Botstein,

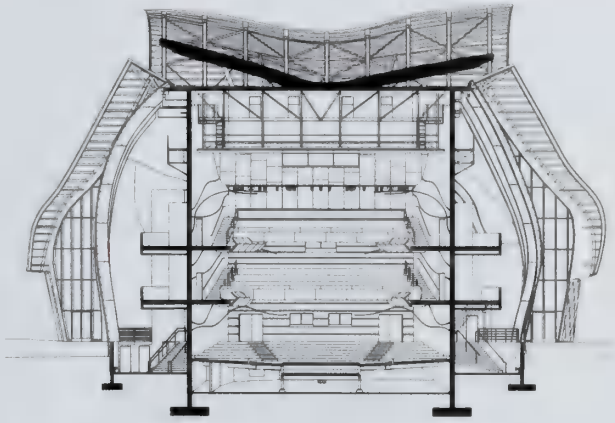


MAIN FLOOR - THEATER 1 AND 2



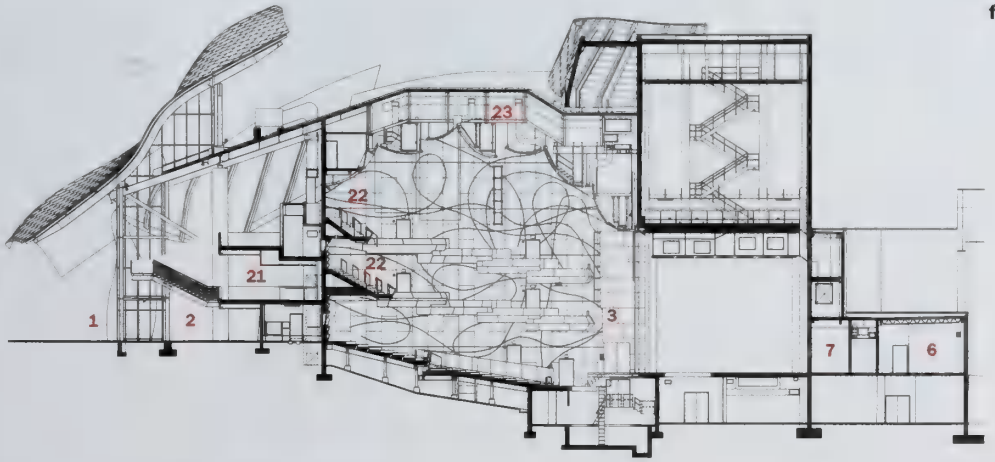
ROOF PLAN - THEATER 1 AND 2

1. *Main entrance*
2. *Lobby*
3. *Theater 1*
4. *Stage right*
5. *Storage*
6. *Costume shop*
7. *Dressing rooms*
8. *Practice room*
9. *Green room*
10. *Orchestral lift*
11. *Rest room*
12. *Concession*
13. *Box office*
14. *Theater 2 entrance*
15. *Lobby, theater 2*
16. *Dance rehearsal*
17. *Drama rehearsal*
18. *Black box theater*
19. *Bleacher storage*
20. *Offices*
21. *Lobby balcony/bar*
22. *House balcony*
23. *Catwalk*



TRANSVERSE SECTION AA - THEATER 1

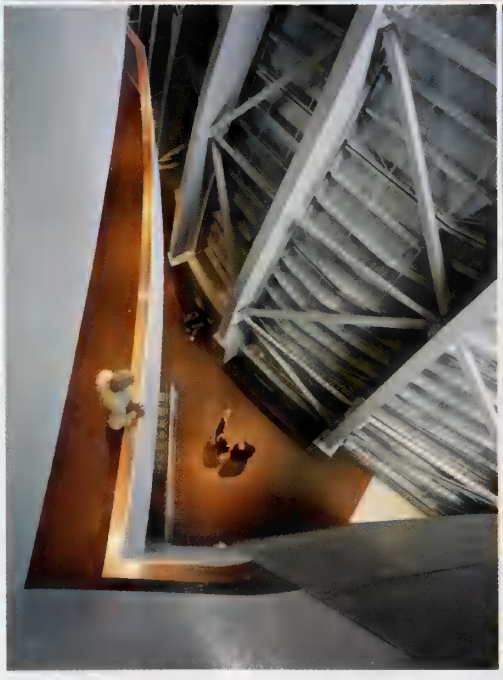
Each theater has its own separate lobby, storage, and office space, and for public purposes each functions as a separate building—neither theater can be entered via the entrance to the other. However, they are joined at the hip behind the scenes, where the buildings share scenery and costume shops. In addition, theater 2 has four rehearsal rooms.

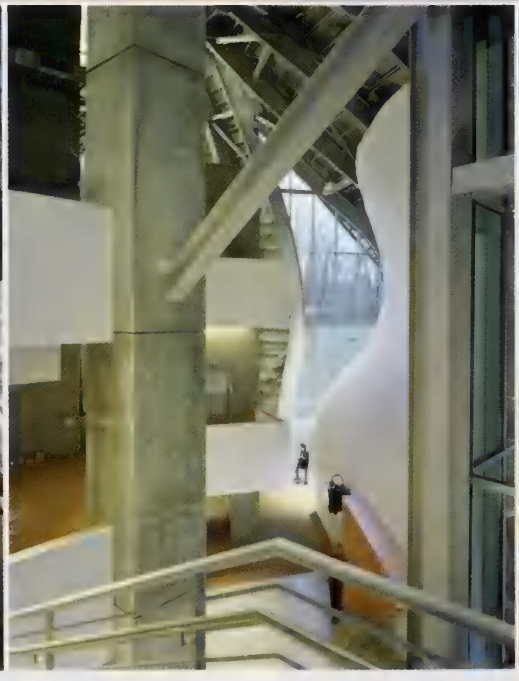


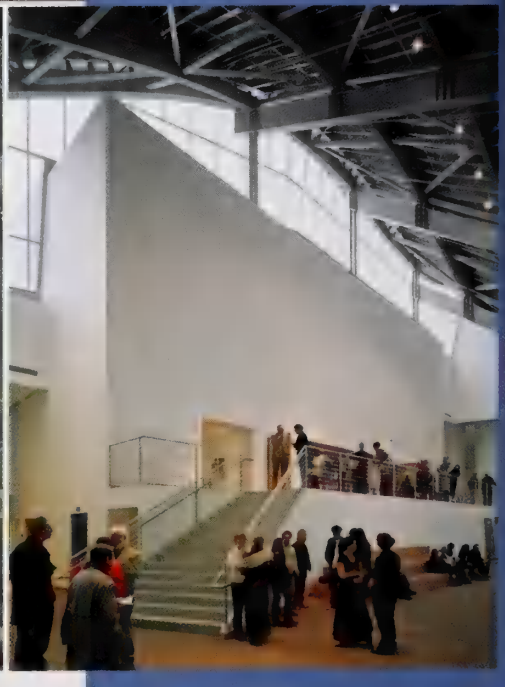
LONGITUDINAL SECTION BB - THEATER 1



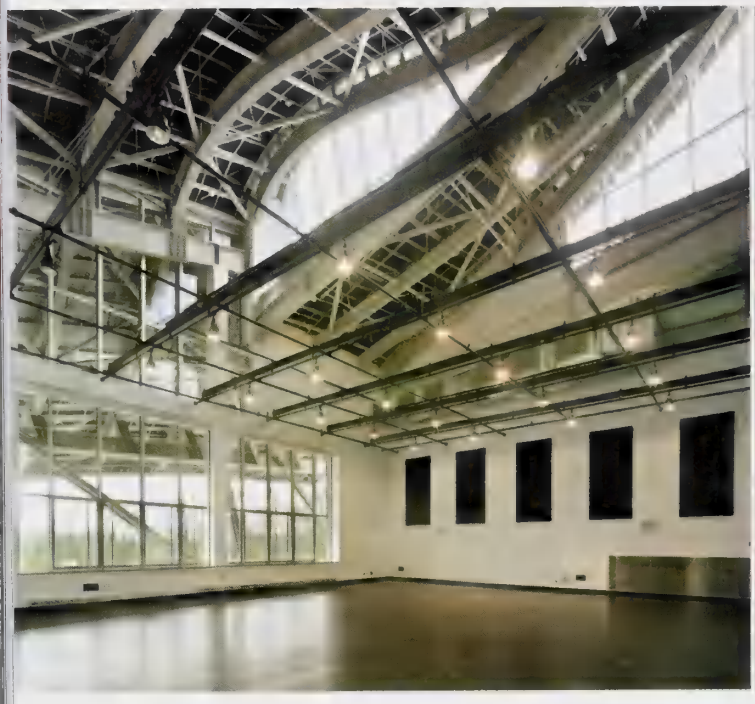
With its grand proportions, its exposed steel framing supporting the stainless-steel cladding (left and bottom left), and its concrete structure (bottom center), the lobby, at first glance, has the ambience of a football stadium. At the same time, tantalizing glimpses of the shapes of white plaster over drywall construction (opposite) enclosing auxiliary spaces (e.g., box office, rest rooms, and mechanical rooms) add an unexpected elegance and artful refinement. The lobby of theater 2 (bottom right) receives additional, dramatic natural illumination through the expansive clerestory-like awnings.

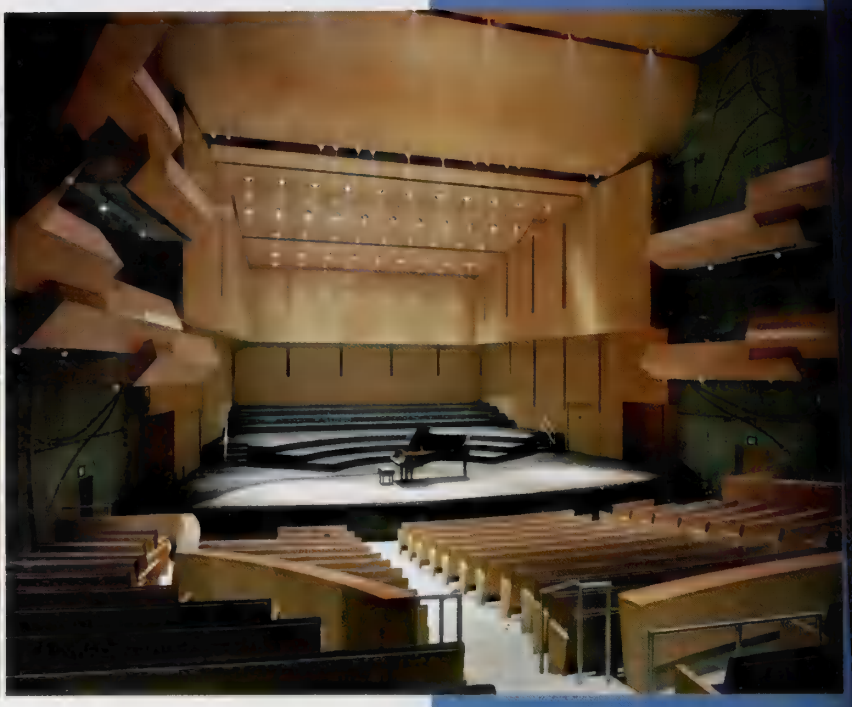












president of Bard College—and music director of the American Symphony Orchestra—to make the Fisher Center the hub of an arts community in the Hudson Valley. For this reason, it is designed to accommodate symphony orchestra and chamber music concerts, as well as dance and opera performances. (Dramatic productions are held in the black box theater in the adjoining building.)

In terms of the acoustics, the sound in the main auditorium is bright, particularly the brass on the opening night's performance of Mahler's Third Symphony (with the versatile Bard president conducting the American Symphony Orchestra). If this had been a Broadway musical, you might say it was overly amplified. But of course electronic amplification is not an issue here. A large orchestra in a moderate-size hall can do it. Nevertheless, subsequent performances of chamber music reportedly proved beneficial for woodwinds and piano.

What makes the familiar different at Bard's performing arts center is Gehry's pitting the two languages of curving expressionism and straightforward Modernism against each other.

WHAT MAKES THE FAMILIAR DIFFERENT HERE IS THAT YOU NEVER EXPERIENCE THE BUILDING AS ONE IMAGE: THIS IS NOT A ONE-LINER.

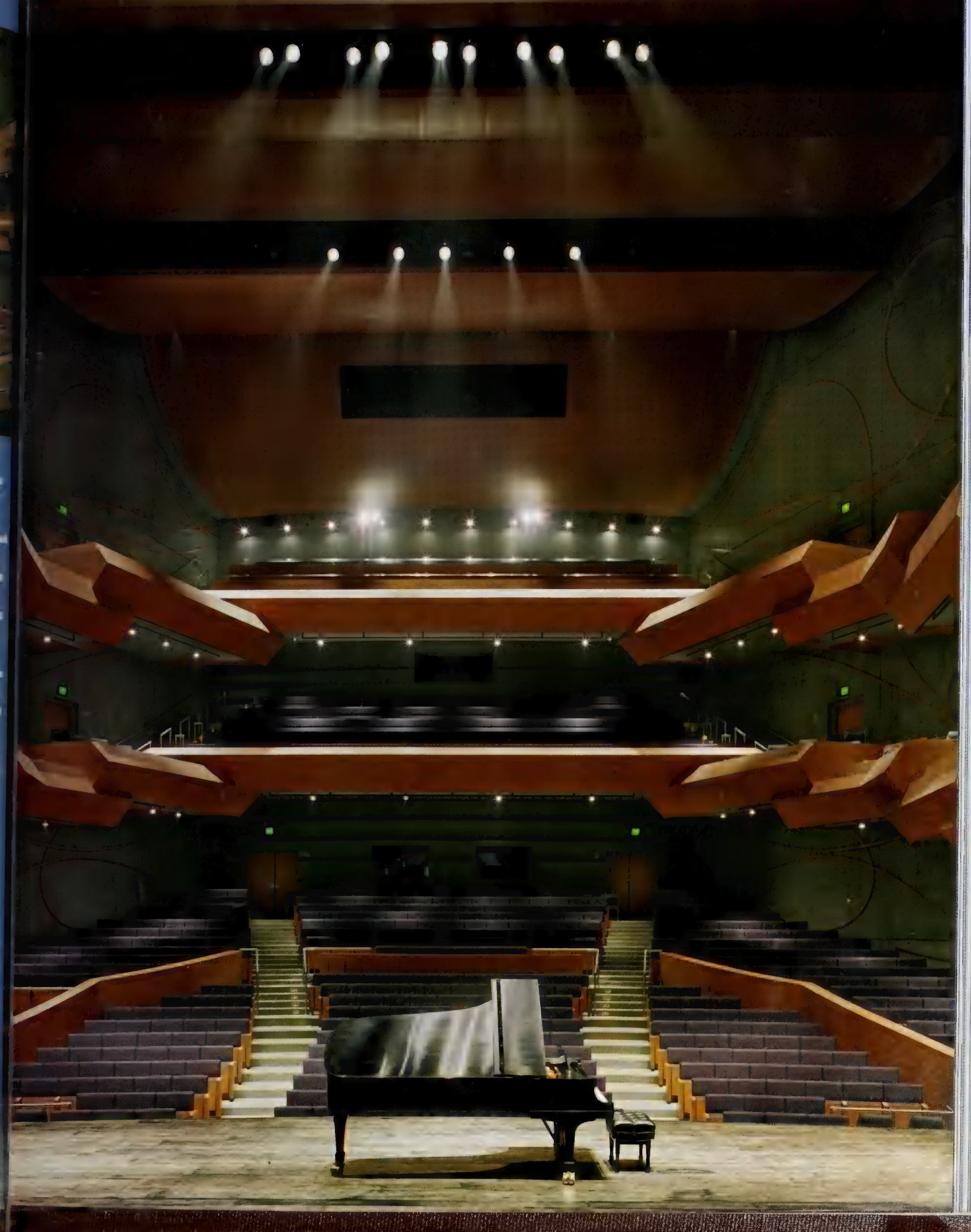
You never experience the building as one image: This is not a one-liner. As risky as this effort is, Gehry brings it off, largely because he is being honest, and the boring bits are actually well done. The distinct separation of skin from structure, seen in his early work, is even more dramatized at Bard. The skin is both the prime architectural element and at the same time the instrument by which the forsaken parts (the white boxes) are revealed. More to the point, the entire complex presents a mini timeline of his own oeuvre, from the days of designing the Rouse Company headquarters in Columbia, Maryland, in the early 1970s, to the nitty-gritty exposed structure of the Santa Monica House and the Cabrillo Marine Museum in San Pedro, California, in the late '70s, to the big and shiny whammies of the Weisman, Bilbao, and Disney Hall, conceived in the late '80s and '90s. Bard offers a *mise-en-abîme*—a story within a story—of Gehry's architecture. But it is a difficult prototypical strategy for others to follow, for the balance between the unfamiliar and the banal is so tricky that you need a very special sensitivity (and talent) to pull it off. ■

A special acoustical shell of 13 "towers," elongated boxes of Douglas fir and drywall, was designed with acoustical consultant Yasuhisa Toyota of Nagata Acoustics and mounted on the concrete wall. Weighing 7,000 pounds each, the towers range in height from 31 to 36 feet, and are 8 feet wide. The fir walls are 2 inches thick and attached to a frame of steel tubes and channels, with the upper part of the box motorized and projected from the lower one. All told, these towers provide the right amount of reverberant surface, supplemented by contoured ceiling canopies of Douglas fir with steel backing.

Sources

Stainless-steel exterior cladding: *A. Zahner*
Structural steel: *Columbia Wire and Iron Works; Berkshire Bridge & Iron*
Fixed seating: *Poltrona Frau*
Theater equipment: *JR Clancy*
Theater drapery: *Syracuse Scenery & Stage Lighting*
Sound and video: *SPL Integrated Solutions*

For more information about this project, go to Projects at **www.architecturalrecord.com**.



Wendy Evans **Joseph** turns an iconic work by Frank Lloyd Wright into **THE INN AT PRICE TOWER** with no edginess lost

By David Dillon

On the 9th of February in 1956, Bartlesville, Oklahoma, residents lined up for blocks to tour Frank Lloyd Wright's bizarre addition to their downtown. Soaring sunscreens, thrusting balconies, no right angles: how to make sense of it? Locals referred to it as a spaceship, a hood ornament, and "Price's folly," a reference to Harold C. Price, who had given the commission to Wright.

"People thought it was crazy because it didn't have walls until the very end," recalls Price's daughter-in-law Carolyn. "It looked like the backbone of a fish. But over the years they've come to like it. You could say it went from crazy eccentric to wonderfully eccentric."

Bartians (rhymes with Martians) are hoping that the old magic continues now that the tower has been converted to an arts center, with a 21-room boutique hotel designed by New York architect Wendy Evans Joseph, AIA. The town is still reeling from the recent departure of the Conoco/Phillips headquarters and in need of a boost. The Inn at Price Tower could be it. Where else can you visit a Frank Lloyd Wright skyscraper and also get to spend the night?

Harold Price had made a fortune in the pipeline business and wanted to give something back to his hometown, something special, a new civic icon perhaps [RECORD, February 1956, page 153]. So in 1952, Wright proposed a pinwheeling, 19-story, poured-concrete tower, with floors cantilevered from a central core like branches on a tree and supporting a combination of offices, apartments, and shops. It was an elaboration of his unbuilt St. Mark's in the Bowerie project of 1929, though with an asymmetrical plan and more complex program. Taliesin apprentice Fay Jones contributed to the working drawings.

"Tap root" schemes turn up repeatedly in Wright's work, including this exotic, mixed-use project in a remote Oklahoma oil town. The Bartlesville tower is an architectural summa of Wright's views on integrated living and working, the liberating power of technology, and the primacy of instinct and emotion. It is as much a social manifesto as a work of architecture.

Harold Price balked at first. He had been thinking of a two- , maybe three-story build-

Contributing editor David Dillon is architecture critic of The Dallas Morning News.

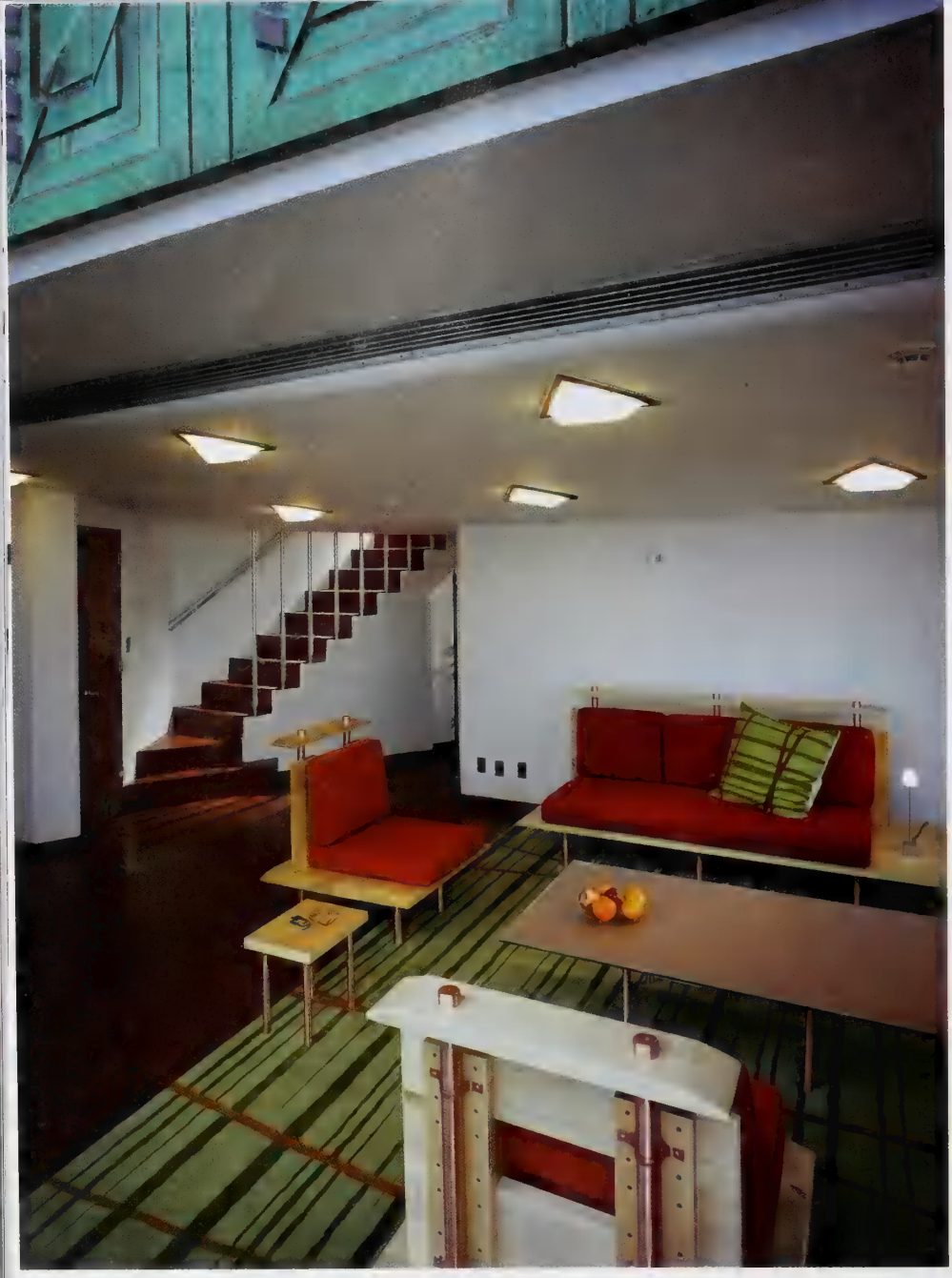
Project: *The Inn at Price Tower, Bartlesville, Oklahoma*
Design architect: *Wendy Evans Joseph Architecture—Wendy Evans Joseph, AIA, principal; Robert Furno, AIA, Farzana Gandhi, Manan Shah, Thruston Pettus, Liz Burrow, Liza Beaulier, design team*
Client: *Price Tower Arts Center—C.J. Silas, chairman; Richard P. Townsend, executive director*
Architect of record: *Ambler Architects—Scott Ambler, principal; Jim Charles, engineering technician/project manager*
Furniture, guest-room rugs, and mural design: *Wendy Evans Joseph Architecture*



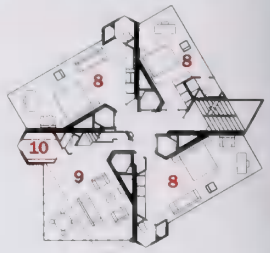
PHOTOGRAPHY: © CHRISTIAN KORAB

In 1956, Frank Lloyd Wright's 19-story Price Tower in Bartlesville, Oklahoma, was the tallest thing around. Seen at first as an alien object, it soon became a familiar icon, and now the top floors have been turned into a boutique hotel.

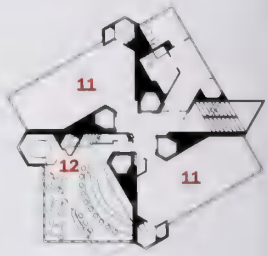




1. *Entry*
2. *Lobby*
3. *Museum reception*
4. *Museum theater*
5. *Temporary exhibition*
6. *Hotel reception*
7. *Service entry*
8. *Guest room*
9. *Guest suite, lower level*
10. *Kitchen*
11. *Conference room*
12. *Restaurant, lower level*



TYPICAL GUEST FLOOR



FIFTEENTH FLOOR



GROUND FLOOR

ing, he told Wright. "Too much wasted space," the architect replied." "But it's such a big building for a small town," Price continued. "Not at all," said Wright. "I just stood it on end."

And so it went, with Wright ultimately getting everything he wanted, even a drive-up branch of the Public Service Company of Oklahoma. (The Art Center's main gallery sits where the pay window used to be.) He also busted Price's budget by $1 million.

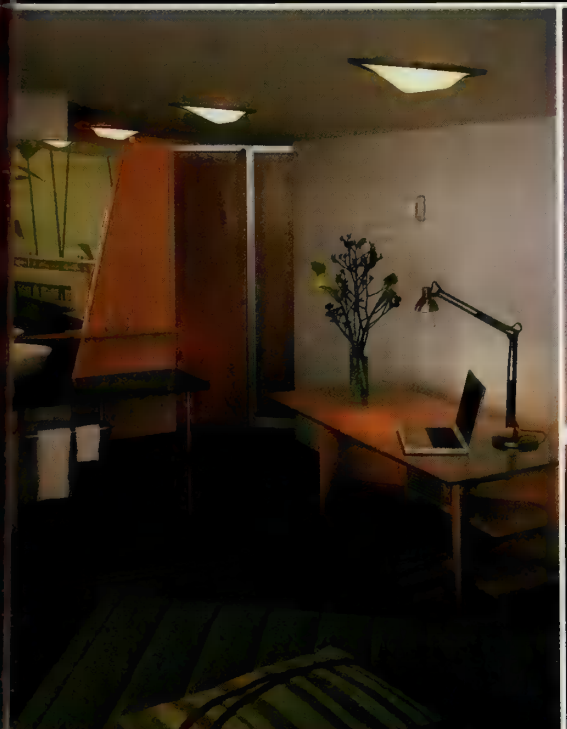
But dismay turned to delight. Price put the tower on the cover of *Tie-In*, the company magazine, and rarely passed up a chance to tout its brilliance. Employees reportedly liked the building. "You weren't stuck in a cubicle," remembers Bill Creel, head of the company's pipeline-coating division. "You could get up and walk around and look at the sky and the prairie. You get a lot of good ideas with views like that." But others weren't so impressed. The duplex accommodations on one quadrant of each floor turned out to be small, hot, and expensive, too much like Manhattan apartments. Price later converted most of them to offices, which proved unworkable because of so many triangles and so little flexibility.

IN WRIGHT'S MIXED-USE TOWER, THE APARTMENTS TURNED OUT TO BE TOO SMALL, HOT, AND EXPENSIVE. SO THEY WERE CONVERTED TO OFFICES.

The Price Company occupied the tower until 1981, then sold it to Phillips Petroleum,

Originally, each level of the poured-in-place-concrete structure was a combination of single-level offices and duplex apartments. In this incarnation, Wendy Joseph converted the top eight floors into a 21-room hotel, with three duplex suites (above left). The color scheme, materials, and furniture that Joseph designed (opposite) defer to Wright's own aesthetic, while creating a new identity for the inn.



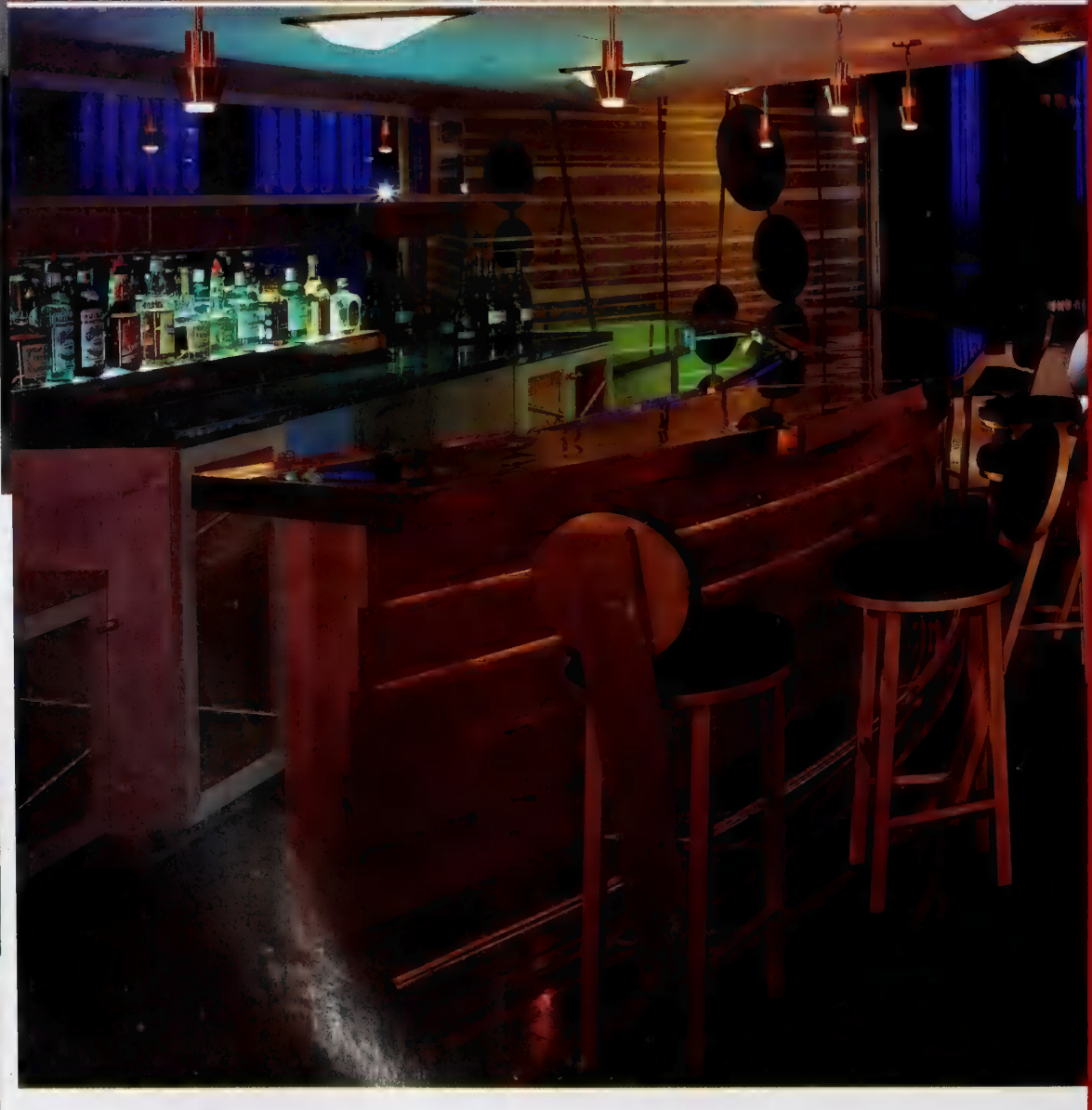












Visitors to the hotel and arts center can take an elevator from the restored lobby (above) to Copper, the bar and restaurant (left three and opposite) on the 15th and 16th floors. In remodeling the interior, Joseph designed its furnishings and murals to diverge from the triangular form Wright used, in order to keep the two approaches distinct. The curved bar itself (left) has a copper sheet top and is faced with maple plywood and Lucite strips. The chairs and bar stools are maple and copper pipe, while the banquettes are maple.



which used it for 20 years before turning it over to the Price Tower Arts Center, a nonprofit institution for contemporary art and architecture. Founded in 2001, the center has an ambitious agenda of exhibitions and public programs, which it hopes to fund in part with income from its hotel and restaurant. It is also trying to raise $15 million for a new museum by Zaha Hadid [RECORD, June 2003, page 30], a low horizontal building that will wrap around the tower like a boomerang while reaching out to a performing arts center designed by Wright's son-in-law, William Wesley Peters. Perhaps Hadid's bold geometry will spark another public debate and the familiar/unfamiliar cycle will begin all over again.



Wendy Evans Joseph's hotel carries on a spirited dialogue with Wright's building without lapsing into either mimicry or glibness. She complements, at times contests, but never copies. It wasn't easy, she explains, because "the building is so specific, with such strong geometry and so few materials, that I wondered if there could be another response. I wanted to leave Wright alone, yet I found I had to contend with him at every turn."

She approached this strictly as an interiors job. She made no structural changes to the tower; the spaces remain as Wright designed them, but with different contents. Eighteen offices and three of the original apartments have become guest rooms ($125–$250 per night), with a fourth turned into the restaurant Copper. The lobby, complete with Wright's favorite quotation from Walt Whitman, has been faithfully restored, along with Harold Price's office on the top floor, which looks as if it had been shrink-wrapped the day he departed.

Joseph succeeds in preserving the spirit of Wright while updating the materials and technology. She uses abundant copper in the guest rooms and restaurant, for example, but in the form of tubing and thin industrial mesh instead of heavy patinated panels. Likewise, her carpets and upholstery fabric recall Wright motifs without copying any particular one. His metaphor for Price Tower, "the tree that escaped the crowded forest," served as the starting point for the contemporary, even slightly Japanese, murals in the guest rooms.

Wright's tables and chairs were exercises in pure form, miniature sculptures, while hers consist of long thin strips of maple that highlight construction and invite rearrangement. His seem anchored; hers seem to float in their spaces. Because the tower's elevators are the size of phone booths, the individual pieces had to be hauled up one by one and assembled on-site, the same approach Wright had used.

WENDY JOSEPH CARRIES ON A SPIRITED DIALOGUE WITH WRIGHT'S BUILDING WITHOUT LAPSING INTO EITHER MIMICRY OR GLIBNESS.

The visual high point is Copper, a two-level restaurant on the 15th and 16th floors that was formerly an apartment. The bar is a long, gentle curve with lapped maple sides—a wry allusion to Wright's swirling Guggenheim—and a faceted copper top. The dining tables are covered with a thin copper mesh slipped between sheets of glass; the same mesh is used for the window drapes, providing a fluid counterpoint to the heavy copper sunscreens on the outside of the building. The room is like a three-dimensional sculpture in which no two surfaces, and no two views, are the same.

With the completion of this $2.1 million renovation, the Price Tower has come full circle—from curiosity to avant-garde symbol to corporate castoff to community icon. Its prototype, St. Marks, was all apartments; its most recent incarnation is a residence of a trendier and more transient kind. "It is a unique opportunity to honor the spirit of Wright," says Arts Center director Richard Townsend. "It's also a chance to create the kind of community focal point, the town square, that Harold Price had in mind." And, in the process, to reintroduce the public to one of the most romantic, idiosyncratic, and fiercely individualistic works of architecture in America. ■

The nonprofit Price Tower Arts Center occupies the first two floors of Wright's only skyscraper. Here, Joseph created an architecture and design gallery (above) that features Wright's objects. The original 19th-floor office for Harold Price, with the furniture designed by Wright, has been kept intact as part of the museum (opposite).

Sources

Fabric seating: *Maharam*
Fabric for draperies: *Jack Lenor Larsen*
Guest-room lamp lighting: *Lite-Source*

For more information about this project, go to Projects at **www.architecturalrecord.com**.





The architects preserved the view of the 1870s barn from the farmhouse (above). But along the property's entry drive, to the west, they fully revealed the intersection of the barn with a glassy Modernist structure (right).

W Architecture crosses a 19th-century barn with a Miesian glass box to create **DoMa**, a private art gallery in rural Maryland



By Sarah Amelar

Sure, a simple barn may look like a close cousin of a traditional monopoly-piece house—but at their essence, houses and barns are polar opposites. While a house usually needs full enclosure, even insulation, from the elements, a barn wants to breathe, allowing air to flow through random slits in its loosely joined cladding. Somewhat ramshackle by nature, wood barns remain fairly free to shift and settle over time, whereas houses tend to be more fixed. But differences aside, many a romantically weathered barn has inspired an owner or architect to convert it into a house. And whatever the approach—there have been plenty of variations—the farm building typically gets lost in the process. More often than not, its well-seasoned shell ends up tightened and sealed, retaining little of the shed's former personality, other than a bit of texture on its exterior and perhaps rugged posts and beams on its interior.

In DoMa, a Maryland barn-turned-gallery-and-guest-house, however, the outcome is more unexpected. Here, W Architecture tackled the conversion dilemma with a strikingly simple, yet inventive, strategy, and in the end managed to preserve the character and key elements of an old barn—without sentimentality—while inserting the crisp lines of a pure Modernist form. At DoMa, a pristine glass box literally intersects a shaggy farm structure and achieves the unlikely merger with remarkable success, simultaneously distilling qualities of both components. The individual elements are familiar, but the nature of their juxaposition is not.

A PRISTINE GLASS BOX LITERALLY INTERSECTS A SHAGGY FARM STRUCTURE, ACHIEVING THE UNLIKELY MERGER WITH REMARKABLE SUCCESS.

It all started with the clients' desire to preserve views of the original barn from their 1830s farmhouse while transforming that outbuilding into a venue for their contemporary art collection. The 85-acre property, a former dairy farm with an 1870s bank (or hillside) barn, had been a breeding ground for prize basset hounds before becoming the weekend retreat of its current owners, Nancy and Stan. The couple—a partner in a venture capital firm and a recently retired labor lawyer, now an art history graduate student—settled into the farmhouse with its cozy warren of small rooms. But their collection of sculpture and large paintings by established and emerging talent needed a more open, expansive space. So, they looked to the picturesquely dilapidated barn as a potential home gallery and social gathering place. The couple's bent toward simultaneity—conserving the old while assertively introducing the new—combined with the barn's strong character, inspired the architectural intervention.



W Architecture partners Barbara Wilks, FAIA, and Alex Washburn, AIA, decided early on to keep the formerly red wood barn as a ruin—at least visually. But the stone-based building was, as they soon discovered, on the verge of collapse, with only "antique" hay stored in its lower level supporting the upper floor. So, to make the ruin structurally sound, the architects unobtrusively added steel plates and rods that strengthen its skeletal form. "It's all strung up like a guitar," says Wilks. "Sometimes you can hear it ping." Leaving the cladding's shaggy edges just as they'd found them, the architects applied a clear, matte wood preservative to halt further deterioration.

The design is based on a series of shells—with the barn's skin partially sheathing a glazed volume, which, in turn, contains a service/chimney core, enclosed in stacked pine planks (anchored on threaded rods). Neither expecting nor forcing the original siding to keep out rain or cold, the

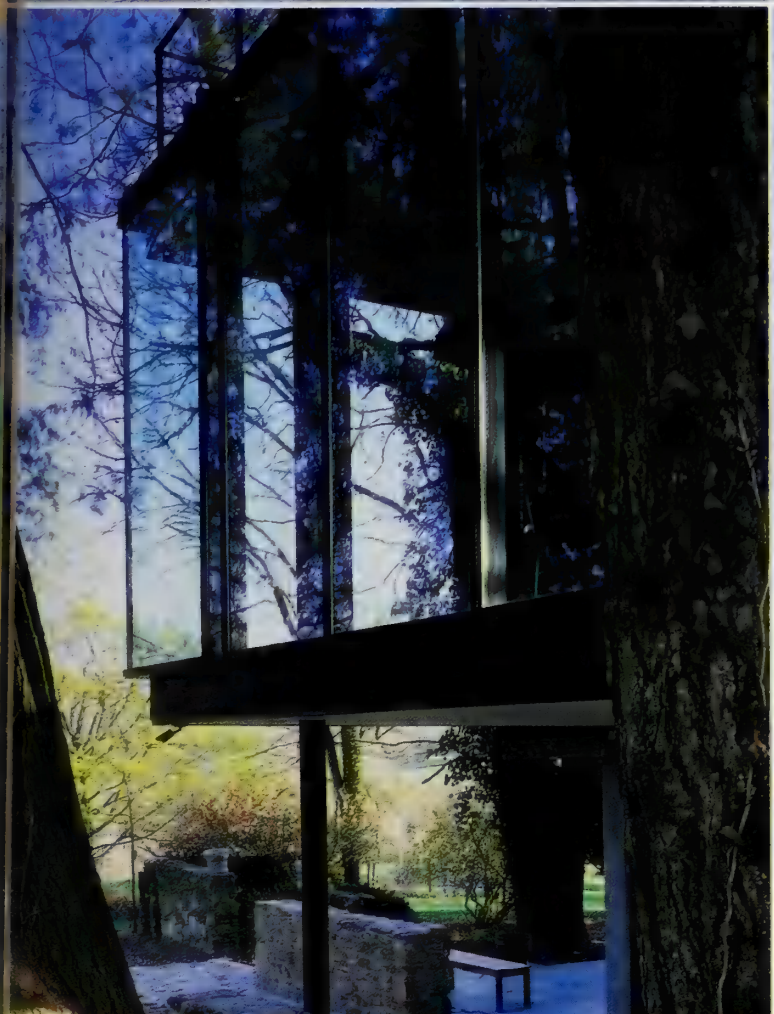
Original fieldstone walls, along with new concrete ones, anchor the guest quarters now occupying the barn's lower level (opposite, top left). The barn's floor joists are partially exposed, and a reveal like window separates an old stone wall from a new concrete one (top right). The sleek-lined, glazed volume plays against the site's mature, vine-wrapped trees (bottom left) and the shaggy barn siding (bottom right). The architects stripped the building's north elevation to its structural members, opening the glazing to views and light (this page, below).

PHOTOGRAPHY: © ALAN KARCHMER/ESTO

Project: *DoMa, Baltimore County, Maryland*
Architect: *W Architecture—Barbara Wilks, FAIA, Alex Washburn, AIA, principals in charge; James Coleman, project architect; Scott Rae, Michel Hsuing, Andrea Steele, project team*
Interior designer: *Johnson & Berman*
Engineers: *Robert Silman Associates (structural); Spears/Viotta Associates (mechanical/electrical)*
Lighting: *Luke Tigue*
General contractor: *Henry H. Lewis Contractors*





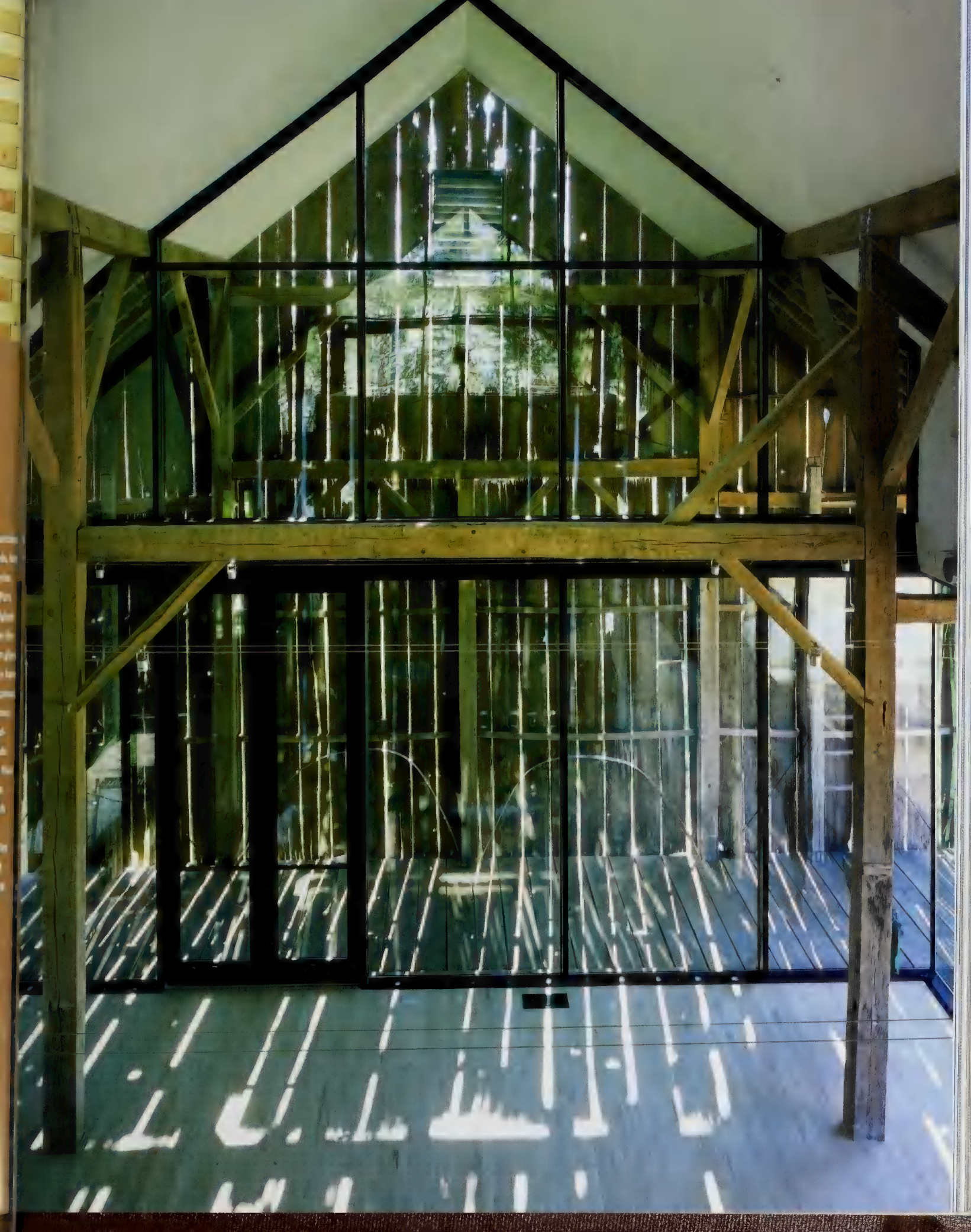


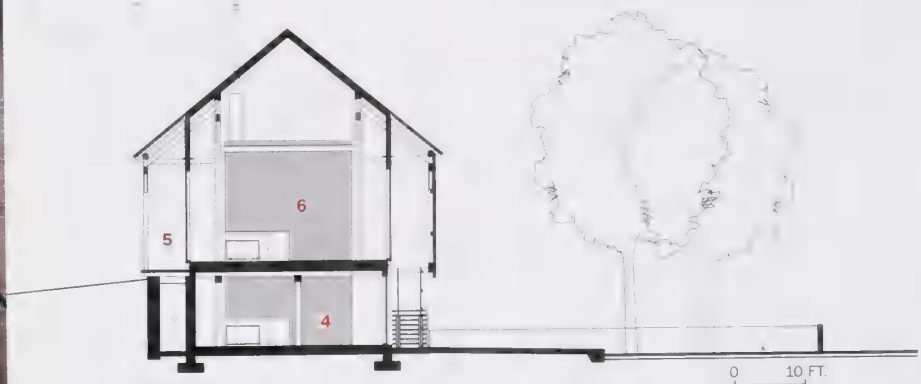




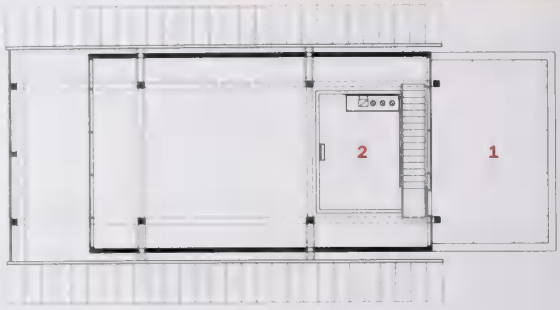


Steel studs, anchored on threaded rods, form the central service core (top row). Part of the barn's original interior has been further enhanced, in glass, while other areas have become more exposed, as in the entry zone, where a new steel-grate slab ascends beneath exposed floor joists, arriving in a semi-outdoor porch (left). The glazing accentuates the play of light penetrating slots in the cladding (opposite).

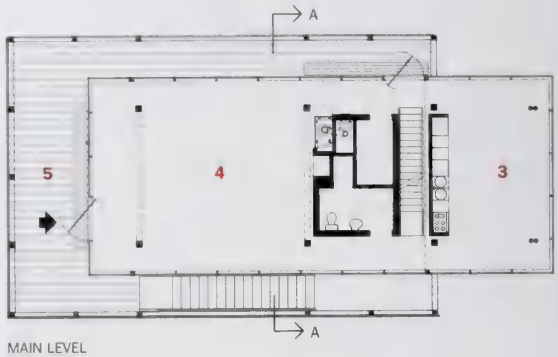




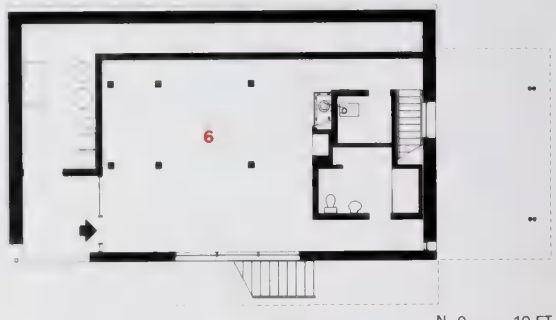
SECTION A-A



LOFT LEVEL



MAIN LEVEL



LOWER LEVEL

N 0 10 FT.
3 M.

1. *Deck*
2. *Study loft*
3. *Dining*
4. *Gallery/living*
5. *Porch*
6. *Guest quarters*

architects used it solely for brise-soleils and semi-outdoor passages or porches.

Through a process of judicious editing, the design team determined which elements to remove and which to retain. Placing the gallery, living, and dining areas on the main level with guest quarters below, inside the barn's stone base, they turned a cellar into a light-filled bedroom, with glass replacing large expanses of masonry walls. Above this room, the original wood elevations remain intact to the south and west, preserving the clients' favored views from the farmhouse, while screening the gallery's long south side from intense sunlight. "For looking at art, a wall of glass facing south wouldn't make sense," says Wilks, "but with light entering only between the slats, southern rays give the most dramatic effect." On the north side of the building, she and Washburn took the more radical step of stripping the barn to its heavy timber structure, completely opening the northern glazing to gentler light and meadow views.

For all the simplicity of DoMa's volumes and the modesty of its 3,480 square feet, you still need to walk entirely around the building and throughout its interior to grasp just how the overall configuration works. New elements insert into, and project from, the old in varied ways—as the original barn yields outdoor, indoor, and in-between spaces. The old cathedral ceiling remains open, its gable extending out seamlessly from the interior to overhang an open deck above the dining area. Reflections in the glazing now accentuate the slashes of light penetrating the siding's irregular slits.

The project draws much of its success from the interplay of materials, rhythms, and textures. While ragged barn siding contrasts with smooth planes of glass, subtle echoes of form occur throughout the building—for example, between light-filtering slats and steel-grate entry steps or among the parallel lines of wood siding, stair-rail cables, and exposed floor joists and roof purlins. Masonry textures range from the barn's craggy fieldstone base to the newly troweled concrete walls adjoining them, the property's worn cobblestone pathways, and the new slate pavers extending from the entry patio into the guest room.

This material palette was achieved without extravagance, but within strict budgetary and value-engineering allowances. The aluminum window-wall system, for instance, is off-the-shelf, while ordinary stock lumber, cleverly assembled, encloses the central service core. "The key here," says Wilks, "was extreme care with proportions and finishes." Also, formal purity and close attention to junctures allowed the architects to bring together the familiar and the unexpected without a jarring effect.

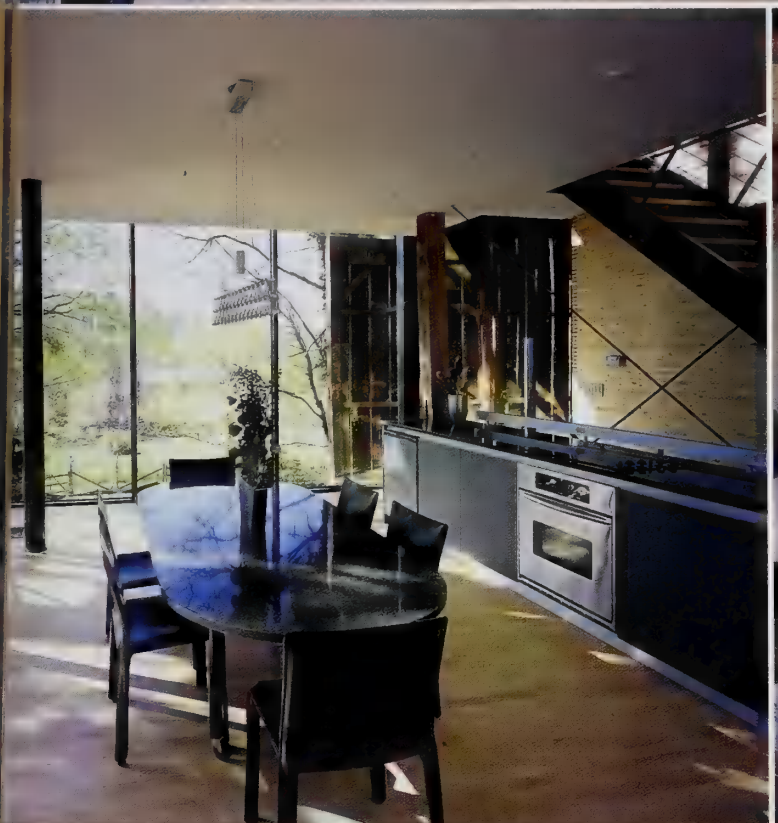
At the outset, the client envisioned the living room/gallery as a multipurpose space, for which W Architecture designed movable, visually floating art-display panels. "But along the way," recalls Stan, "Nancy and I decided not to include them. We realized that the barn with its glass was a work of art in itself—and we didn't want to block it." ■

In the living/gallery area, smooth new wall elements contrast with the old timber structure (opposite, top). The original cathedral ceiling remains open, with the new service core rising from the guest quarters (opposite, bottom right) to a study loft, without touching the roof (opposite, top). A linear kitchen borders the existing living room to the guest room and up to the loft (opposite, bottom left).

Sources
Curtain wall: *Kawneer*
Lighting: *Bruck (downlights)*

For more information about this project, go to Projects at **www.architecturalrecord.com**.









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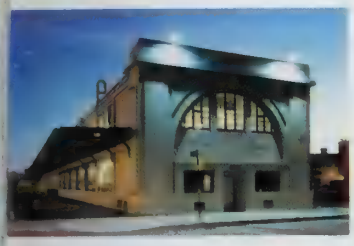
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Beyond Bricolage

OVERLAYS, SUBTRACTIONS, INSERTIONS: THERE IS NO SINGLE FORMULA FOR A SUCCESSFUL RENOVATION, BUT THE BEST ONES INFORM RATHER THAN DICTATE DESIGN.

By Deborah Snoonian, P.E.



1.

Los Angeles, California

Gary Paige Studio/GPS teams with his SCI-Arc colleagues to turn a monolithic structure into a singular teaching and learning experience.



2.

Los Angeles, California

John Friedman Alice Kimm Architects transforms a warehouse into a visually punchy furniture showroom in a neighborhood shaking off its past.



3.

Rome, Italy

Massimiliano Fuksas inserts a municipal arts, exhibition, and conference center into the ruin of what was once a Renaissance horse stable.



4.

Seattle, Washington

Olson Sundberg Kundig Allen Architects retools a former machine shop at the city's edge into a flexible office space for an ad agency.

For more information on these projects, go to Projects at **www.architecturalrecord.com.**

What is it about an updated classic that strikes the heart fondly? Whether it's the BMW G3 reengineered with 21st-century swoopiness, the release of a 1950s film onto DVD, or baseball players donning vintage-style uniforms on game days, we all have designs on the past. Nostalgia itself has become an industry: Every pastime and hobby boasts a clan of enthusiasts who keep the flame of history alive through reenactments, rereleases, and reactivities ad nauseum, and companies of all stripes who pay handsome fees for market research on how to capitalize on our collective yearning to sell everything from furniture to footwear.

For architects overhauling existing buildings, however, straight-up nostalgia can be tough to choke down, as those who have grappled with review boards or conservative clients can attest. Yet when the parties agree to favor reinvention over replication, creating a new program out of what's on hand presents a greater challenge than starting from tabula rasa. As Antoine de Saint-Exupéry noted, "Freedom and constraint are two aspects of the same necessity."

The following four projects put the spotlight on adaptive reuse with a wide range of scales and complexities: Freight depot to university, warehouse to furniture showroom, horse stable to community exhibition and conference center, machine shop to office building. In each case, existing structures were used as a springboard for creativity, like a jazz musician who improvises around a central melody. Adhering to the timeless (and shameless) principle of "if you've got it, flaunt it," the architects highlighted the strong points of these four buildings, namely their robust shells and generous interiors. With that framework in place, they focused on the broader goals: to modernize outmoded formal solutions, to add space for new programmatic elements, to find uses for existing materials, to freshen up neighborhoods with glorious or checkered pasts. Of the four structures, only the freight depot now occupied by SCI-Arc is protected by historic-preservation standards—and perhaps not surprisingly, its competent yet reserved renovation runs counter to the school's cutting-edge reputation.

Though it wasn't planned as such, it makes sense that three of these projects are located in the American West—long our country's geographic stronghold for pioneers and tradition-busters—and the fourth in Rome, a city whose fortunes have ebbed and flowed over centuries.

Architects and clients must not be afraid to project visions of the future onto places with existing narratives. A respectful departure from the past is often the best way to ensure a future worth remembering. ■

Southern California Institute of Architecture
Los Angeles, California

1 **GARY PAIGE STUDIO/GPS TRANSFORMS A FREIGHT DEPOT FOR HIS ALMA MATER AND EMPLOYER IN A QUARTER-MILE-LONG STRUCTURE.**

By Joseph Giovannini

Design architect: *Gary Paige Studio/GPS—Gary Paige, principal in charge; Sunhee Baik, Craig Stewart, Susie Tashiro, David Valdes, design team*
Consulting architects: *Studio Works—Robert Mangurian; Guthrie Buresh Architects—Tom Buresh*
Executive architect: *Kappe Architects Planners—Ray Kappe, FAIA*
Client: *SCI-Arc; Dynamic Builders (owner)*
Engineers: *Nabih Youssef & Associates (structural); The Sullivan Partnership (mechanical); Nikolakopulos & Associates (electrical and lighting)*
Consultants: *Tim Thomas & Associates (lighting); Davis Langdon Adamson (estimating); CSI & Associates (specifications)*
Contractor: *Matt Construction Corporation*

Size: *82,363 square feet*
Cost: *$6.9 million*

Sources
Steel: *D&M Steel*
Windows and glazing: *Giroux Glass*
Paints and finishes: *Dunn-Edwards Paints (by donation)*
Ambient lighting: *Columbia; Contech; Hubbell; Lam Lighting*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

The design of an architecture school inevitably attracts close scrutiny, but the highest expectations—and the highest risk of perceived failure—belong to progressive schools that have made the radicalization of design their mission and badge. The example of their own digs should measure up to the standard and promise of their stated position.

The Southern California Institute of Architecture (SCI-Arc) has long been one of America's most vocally avant-garde schools, and recently it decamped from its warehouse facility on Los Angeles's Westside to a promising former freight depot just east of downtown, next to a nascent loft district. Designating and encouraging the next generation of Southern California figures beyond that of the well-known eminences Thom Mayne and Eric Owen Moss, SCI-Arc's then-director Neil Denari looked to his faculty to design the space. He selected Gary Paige, director of the undergraduate program at the time. Paige had built little but was an ensconced denizen of SCI-Arc, having taught there since his graduation. He had designed the library interiors at the school's previous location.

Program

The building, an industrial leftover in Los Angeles's sprawling rail-yard

Joseph Giovannini is a New York City architect and the architecture critic for New York *magazine.*



landscape, was a mixed blessing. The robust poured-in-place-concrete structure, built in 1906, came with Herculean transverse beams, generous volumes, and scores of large openings for former loading docks. Time had been generous to it, giving the interior surfaces a seasoned patina akin to character lines on a wise face. The problem was the typology: Being as long as the Empire State Building is tall, the shotgun building was unremittingly linear, with only one jog breaking the monotony of its quarter-mile length.

The way the school acquired its new building became a second, unanticipated challenge. In a complicated lease-to-buy arrangement, SCI-Arc rented the building from a developer who pursued historic nomination for the structure to obtain tax credits. The terms of the designation restricted what Paige could do to the exterior, effectively prohibiting any eruptive interventions that would break through its perimeter walls.

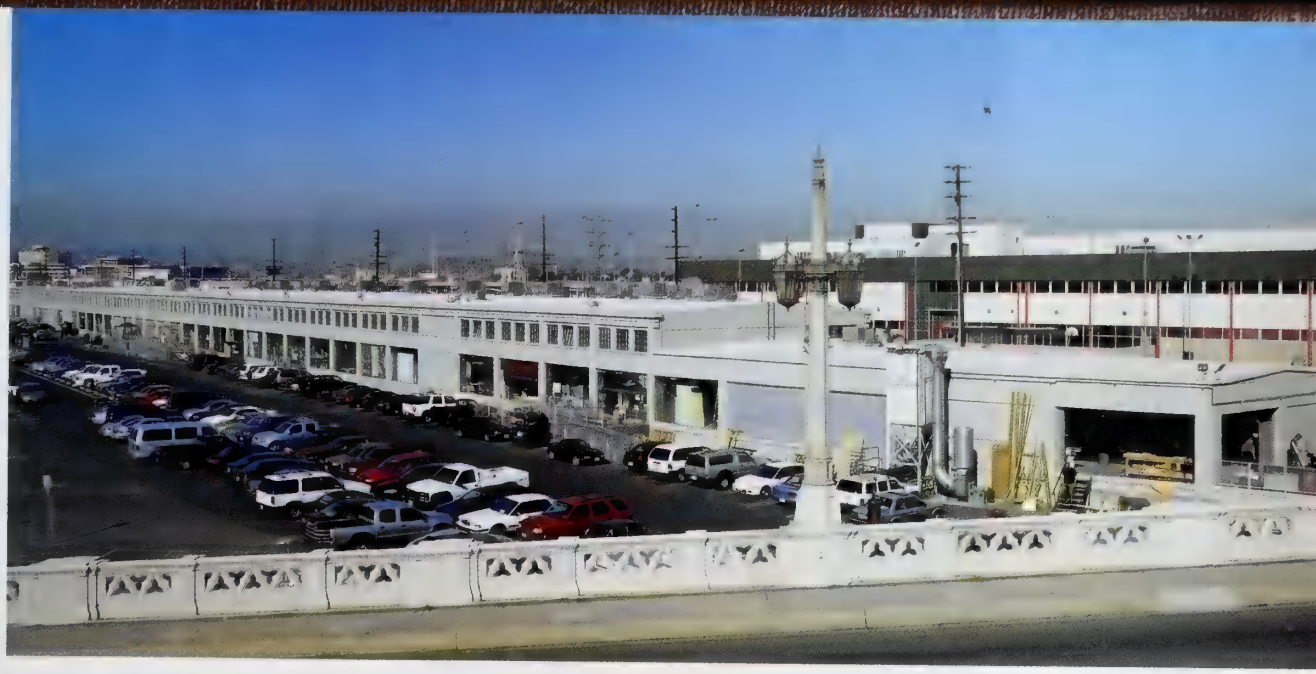
Still, the project had enormous potential, especially given the school's official posture of challenging conventional practice through critical invention. In this case, the rules to be challenged and subverted included the linearity and almost obsessive regularity of the modular building, preservation restrictions, and a budget that left no wiggle room.

Solution

Paige's own interests—rhizomic organization, chaos theory, and serial variation—seemed promising concepts with which he could dislo-

PHOTOGRAPHY: © TOM BONNER

The freight depot's long, low-slung profile (opposite and right) presented a significant design challenge. Plate-glass windows installed in the freight bays (below) let in sunlight and afford views to downtown, but students suffer when the heat builds up inside.



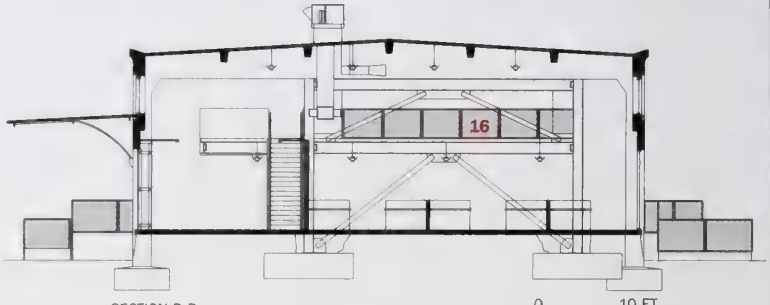




The entrance to the library, a double-height volume at the school's northern end, doesn't announce itself with a significant street presence.



SECTION A-A



SECTION B-B

0 10 FT.
3 M.

1. *Wood shop*
2. *Student lounge*
3. *Studios*
4. *Thesis pit*
5. *Main space*
6. *Store*
7. *Media center*
8. *Exhibition space*



FIRST FLOOR

9. *Administration*
10. *Seminar room*
11. *Facilities*
12. *Computer lab*
13. *Library*
14. *Entrance*
15. *Bathroom*
16. *Mezzanine*



SECOND FLOOR

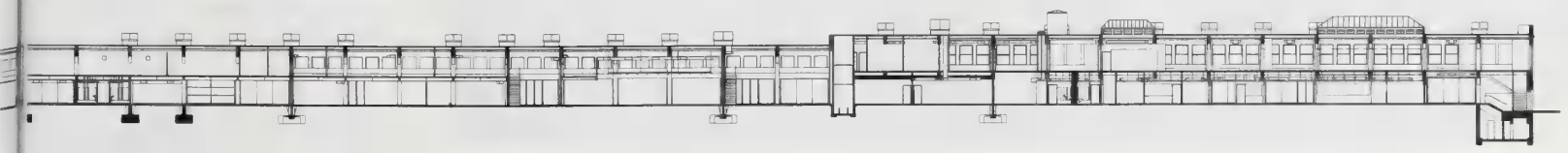


LONGITUDINAL SECTION





Library study carrels lined up along the raw concrete interior (top) are given extra privacy with squared-off partitions. Studio spaces are placed along the former freight bays to take advantage of natural lighting (bottom). Half-height partitions separate the studios from other areas.





Immense beams and columns were left exposed and unadulterated, showing the structure's brute-force interior, now interceded by orthogonal volumes that define programmatic spaces.

cate the building's typology and restrictions to generate a supple interior that could help students realize their own potential, both as a community and as individual talents. Paige consulted with students and other faculty members in a collaborative design process.

Ironically, this permissive school of architecture allowed itself to come under restrictive preservationist rules, and Paige failed to perform a successful end-run around them and the tight budget. Pivoting doors that might have announced a principal entry proved too costly; freight bays were fitted entirely with plate glass because preservation standards required that the bays look either open or closed (as in the original use of the building). Paige somehow talked himself out of installing glazed, operable garage doors in those bays, which would not only have harvested west-facing views of downtown skyscrapers, but might also have enabled crosscurrents that originally ventilated the structure.

Inside, Paige inserted three steel mezzanines, structures within a structure, to add a necessary 35,000 square feet of space to the existing 61,000-square-foot building, and to stabilize the shell seismically. The architect left the shell unengaged to reveal its bones and framework, and each mezzanine is sited and shaped uniquely. He wanted to create a variety of spaces at different scales that push and pull, close and release, pacing along the length of the runway. This parti and its execution are certainly reasonable, but no more original than many open-landscape interiors at vaguely hip agencies in corporate office parks in California and beyond.

Commentary

Today, as a practical matter, a first-time visitor to SCI-Arc can't find the main entrance; students bake in the afternoon heat because of the sun's punishing glare through the plate-glass windows filling the former freight bays; and the library is liter-

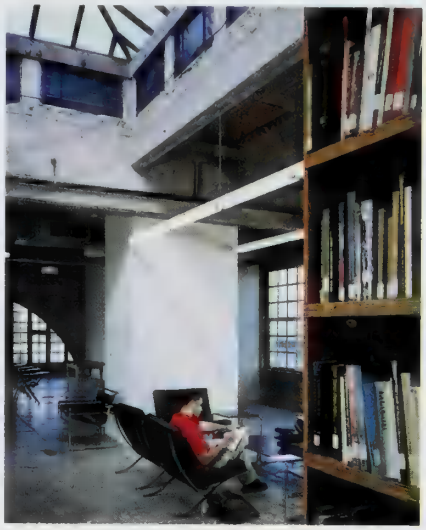
ally marginalized at the farthest end of the structure. Basic practical and programmatic concerns that should have been handled as a matter of course loom as unexpected issues that question the credibility of the design achievement.

Paige maintains that he was trying to build "a piece of infrastructure that can sustain change and evolution," applying a light rather than heavy touch to the building. But the admitted modesty of these ambitions trumped the theories and ideals he professes to pursue, resulting in surprisingly corporate interiors that domesticate this raw and powerful building. Paige has created a well-tempered environment whose local regularity adds up to a global uniformity that reinforces the regimentation of the shell, rendering it all the weaker for lack of significant contrast.

Although Paige professes to champion porosity, the basic plan promotes rather than challenges a fundamentally cellular organization. Orthogonal and extruded, the plan itself is plain and uneventful, a setback never retrieved by subsequent inventions in materiality or program.

Paige won the battle but lost the war by seeking an agreement of parts with the whole. The interior is classical in the sense that all parts fit within a hierarchical order determined by the shell. Paige's politeness yields a competent but unexpected classicism that challenges neither the building nor the student. This overly controlled environment never truly comes alive. The architect capitulated to the restrictions of the commission rather than pushing his theories to their fullest potential. This is a lost opportunity.

SCI-Arc is above all a post-classical school, but Paige has created an environment that is conservative to the point of self-repression. Serviceable as a space, it does not serve the students as a didactic role model. The environment itself will do little to incubate the next generation of young Turks. ■





The strong points of the library (far left) are its high ceiling and abundant natural light. Steel mezzanines (near left and below) increased the building's floor space by more than 50 percent.



Los Angeles Design Center
Los Angeles, California

2 **JOHN FRIEDMAN ALICE KIMM ARCHITECTS BREATHE NEW LIFE INTO A WAREHOUSE COMPLEX FOR A THRIVING FURNITURE BUSINESS.**

By Joseph Giovannini

Architect: *John Friedman Alice Kimm Architects—John Friedman, AIA, principal in charge; Dan Brunn, project architect*
Client: *Cisco Brothers Corporation*
Engineers: *Mackintosh & Mackintosh Structural Engineers (building); Franceschi Engineering (wood siding, fence, gates); William K. Koh & Associates Structural Engineer (sign)*
Consultants: *Orange Street Studio (landscape); Fire Ltd. (lighting); Garza Group Communications (graphic design)*
Contractor: *Brunswick Builders (general contractor)*

Size: *80,000 square feet*
Cost: *$1.2 million*

Sources
Metal/glass curtain wall: *Polygal*
Cement-board siding: *Maxi Plank*
Entrance canopy: *Copperworks*
Fabric canopy: *Shade Sails*
Concrete floors and sign: *Creative Masonry*
Skylights: *Bristolite*
Paints and stains: *Benjamin Moore*
Plumbing fixtures: *Kohler*
Stainless-steel doors and hardware: *The Welding Junction*
Acrylic door panels: *Acrylic Specialties*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

In the spirit of moving beyond collective trauma and civic stigma, South Central Los Angeles—the scene of the Rodney King beating and subsequent riots—has been renamed South Los Angeles and designated an economic empowerment zone. But the few projects that have been erected over the past decade in this manifestly unbeautiful part of Los Angeles are generally festooned with Spanoid facades, the city's overused, all-purpose stage set. Without substance, these veneers of style are the architectural equivalent of the cheap fast food often sold just behind the stucco: Let them eat cliché.

A couple of blocks south of Western and Slauson Streets, however, an ensemble of reinvented 1920s-era warehouses, each as unexpected as an apparition, breaks the rampant urban anomaly. Welcome to the Los Angeles Design Center, a new furniture showroom designed by John Friedman Alice Kimm Architects.





Program

Francisco Pinedo, owner of furniture manufacturer Cisco Brothers, founded his company in a garage 15 years ago. His enterprise has since blossomed into a $15-million-a-year business. The company occupied a number of warehouses in an area of South Los Angeles that has become the heart of the city's nascent furniture industry. Pinedo needed a showroom, and he thought other manufacturers could benefit from a local presence outside the Westside's high-rent design district. He asked the architects to design the core of what might grow into a much larger development (one warehouse is completed; the other is still under renovation).

If the project's budget was frugal, its design potential ran high. The firm had the benefit of working with a found object with high ceilings, good light, and substantive materials—brick walls, wood floors, and steel beams. The architects' strategy was to utilize these givens, transforming a workaday structure through a process of layering.

Solution

The building itself offered clues

PHOTOGRAPHY: © BENNY CHAN/FOTOWORKS



Colored polycarbonate panels and signage (opposite and above) announce the design center with a lively street presence. Tarps suspended over the parking lot (below) define this space as a public plaza and a gateway to what will one day be a larger development.



about how to proceed. The steel columns, retrofitted on the outside, suggested a scaffolding for what became a new facade of translucent polycarbonate panels, applied like shingles along the length of the facade that faces the parking lot. The architects turned the facade at the front so that it ran parallel to the street, giving the parking lot more closure and the front facade more presence. With this billboard structure, the architects absorbed the notion of visual street language in their design.

A variegated appliqué of horizontal, greenish concrete panels, scaled to be glimpsed obliquely from cars sailing past, signals a refined design sensibility that offers not just cautious reinvestment in the neighborhood, but also authenticity, even joy. The panels wrap portions of the two, two-story brick warehouses and share facade space with what appears to be a billboard partially spanning the parking lot between the two primary structures. Suspended tarps sail above the parking lot like magic carpets, just beyond a fence of punched steel.

Inside, Freidman, the principal in charge, sited a few strategic interventions. Removing a section of the

A new staircase (above) rises from an inserted first-floor landing used for furniture displays. Brick walls and wood ceilings (below) were sandblasted for a cleaned-up finish.

first floor, he placed a hardwood landing, large enough for furniture displays, from which a staircase with transparent siding leads to the second floor. He terraced a section of the second floor (raised to accommodate a loading dock below) to take advantage of the level change. The north side of the terrace was walled off with another layer of shingled polycarbonate panels. All the moves were large, to the point of being environmental.

The most transformative insight was turning the parking lot into a public space. At the Design Center, the lot comprises a watering hole, piazza, and party space with a couple of deft, inexpensive moves. The polycarbonate facades add softness and shimmer to the space; the overhead tarps contain it by defining its height; and concrete parking pads in different shades of gray, separated by planted strips that follow construction lines drawn from the surrounding structures, create a lively patchwork quilt underfoot. Eventually, the parking lot will serve as a point of origin for a path leading to other buildings in the expanded project.

The modest budget was spent on gesture rather than detail. Working with subcontractors in what was effectively a design-build process, the firm saved unique moments in their design from the heavy hand of value engineering.

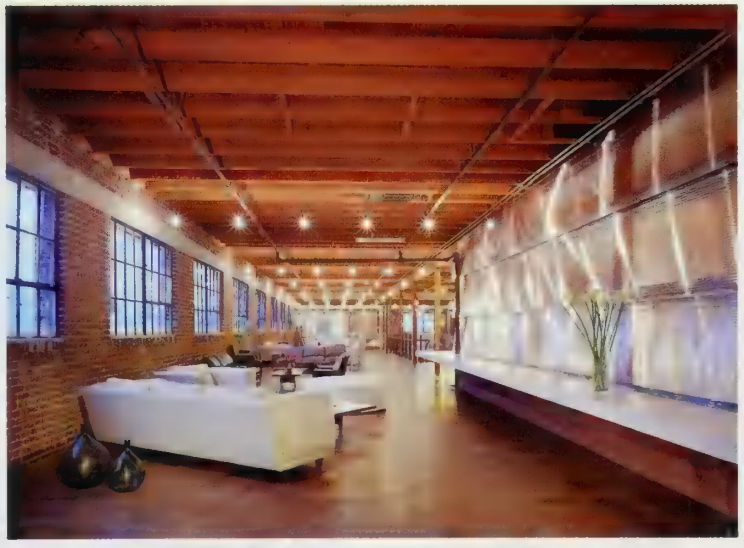
Commentary

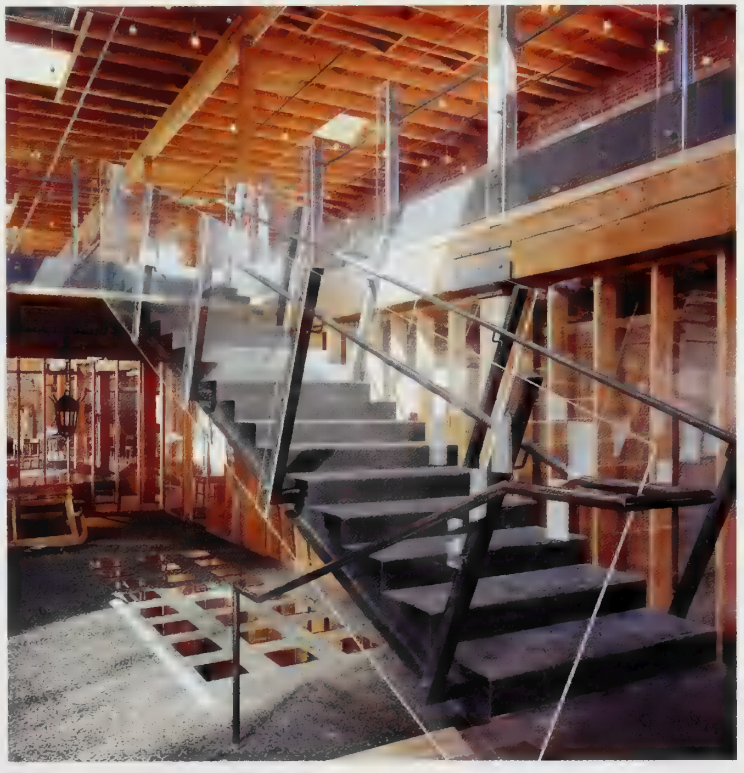
Freidman and Kimm did not pander by designing down to the neighborhood with historical pablum. Instead, they radicalized the space and achieved intensity simply by layering complementary materials in an unexpected spatial collage. By revealing the original, cleaned-up structure and building on its strengths, the architects have revitalized and refreshed familiar monuments of the local landscape that, after the renovation, remain trusted. This is an act of psychic reinvestment in the community, affirmation rather than gentrification. The buildings remain old neighbors fallen on good times. ■



1. *Parking lot/ event space*
2. *Entrance*
3. *Showroom*
4. *Office*
5. *Future showroom*
6. *Overflow parking*







The showrooms are brightened by natural light; polished floors and sleek materials contrast with brick and wood (top and middle). The multilevel display areas in the showroom are divided just enough to encourage visitors to explore (bottom).

Scuderie Aldobrandini
Rome, Italy

3

MASSIMILIANO FUKSAS REVEALS THE LAYERS OF HISTORY IN A NEW MUSEUM AND EXHIBITION SPACE IN THE HILLS SOUTH OF ROME.

By Paul Bennett

Architect: *Massimiliano Fuksas Architect—Doriana Mandrelli, partner in charge; Lorenzo Accapezzato, project architect*
Client: *Municipality of Frascati, Rome*
Engineers: *Andrea Imbrenda (structural); Paolo Bruschi (electrical)*
Consultants: *Paolo Bruschi (acoustical)*
Contractor: *Consorzio Ravennate delle Cooperative di Produzione Lavoro*

Size: *18,500 square feet*
Cost: *$2.35 million*

Sources
Glass curtain wall: *Saint Gobain*
Concrete: *Consorzio Ravennate delle Cooperative di Produzione Lavoro*
Floor and wall tile: *Doussier Industrial*
Office furniture: *Chitarpi*
Reception furniture, fixed seating, chairs: *Techno*
Interior lighting: *Ilti; Castaldi; Targetti*
Exterior lighting: *Targetti*

For more information on this project, go to Projects at www.architecturalrecord.com.

With its facade faded to a patina and large patches of stucco missing to expose raw brick and concrete underneath, the reborn Scuderie Aldobrandini in Frascati, Italy, makes a varied statement about history and architecture. Transformed by Massimiliano Fuksas into a museum, gallery, and conference center, the Scuderie was once the horse stable of the Villa Aldobrandini, a masterwork of the late Renaissance by Giacomo della Porta. The stable has traveled on a sine curve of ruination and reinvention: The Germans used it as a regional headquarters during World War II; wine makers made it a fermenting house in the 1950s; and when Fuksas arrived in 1999, the structure was being used as a makeshift parking garage.

Program

The client wanted space for exhibitions, lectures, and conferences, as well as for displaying its collection of archaeological artifacts. At any given time, the building might play host to a lecture on astrophysics, an exhibition on Bernardo Bertolucci, and a display of pottery shards from the 2nd century B.C. The architect was faced with a building shell requiring extensive reinforcing, as well as the challenge of integrating these diverse programs into a single structure.

Paul Bennett, a writer based in Rome, is a former editor of Landscape Architecture *magazine.*



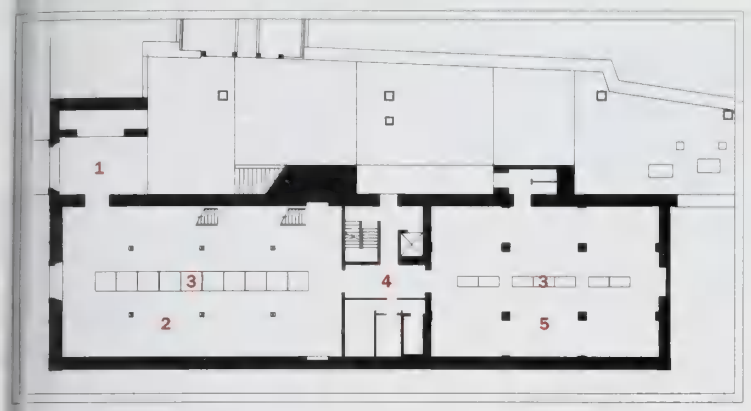


The building's shell is more than 400 years old (left); the new service structure offers views of Frascati (below). Pottery shards, marble fragments, and other artifacts are arranged on stands and illuminated by delicate halogen lights dangled from the roof to create an airy net of wires (opposite).

PHOTOGRAPHY: © GIOVANNA PIEMONTI

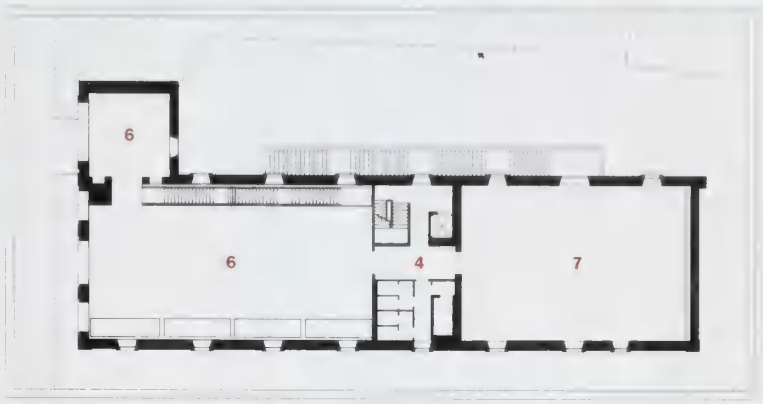
Solution

Fuksas gutted the interior to expose the building's raw structure—brick, stone, and plaster walls that date to the 1600s. The plaster was stabilized and a new steel truss apparatus added to tie the walls together and support a restored wooden roof. The architect then created two voids in the interior by inserting a three-story structure in the middle for service spaces. Each void was divided into two floors, for a total of four rooms—three for exhibitions, one for



FIRST FLOOR

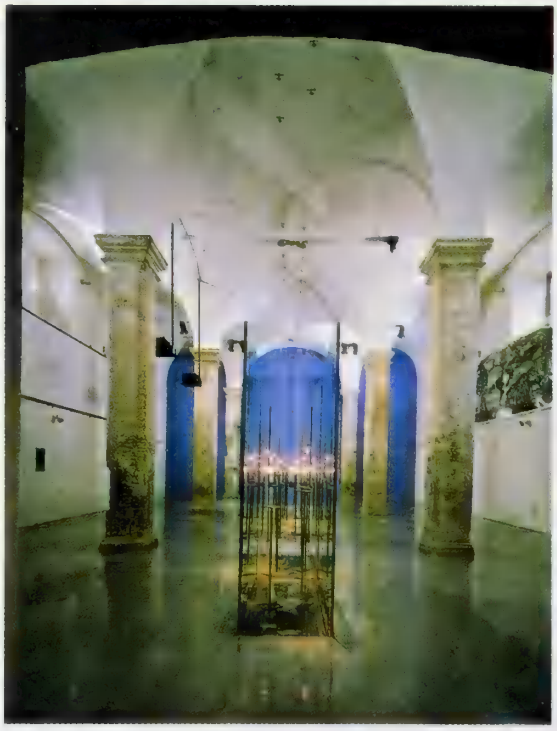
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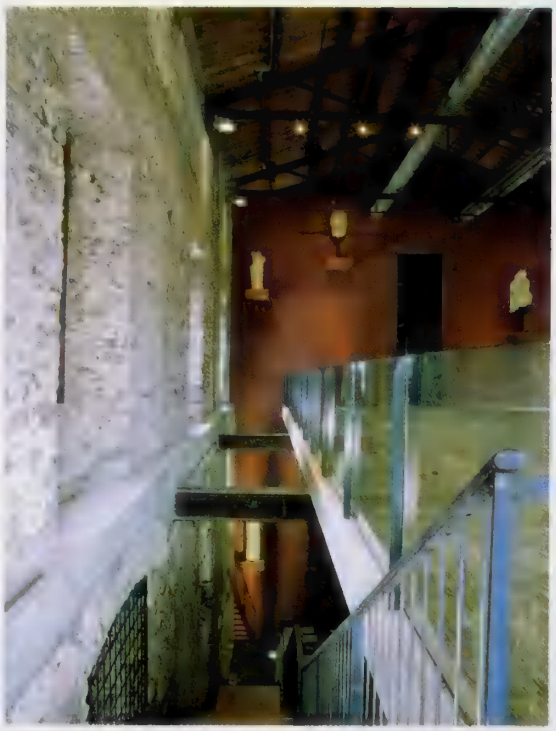


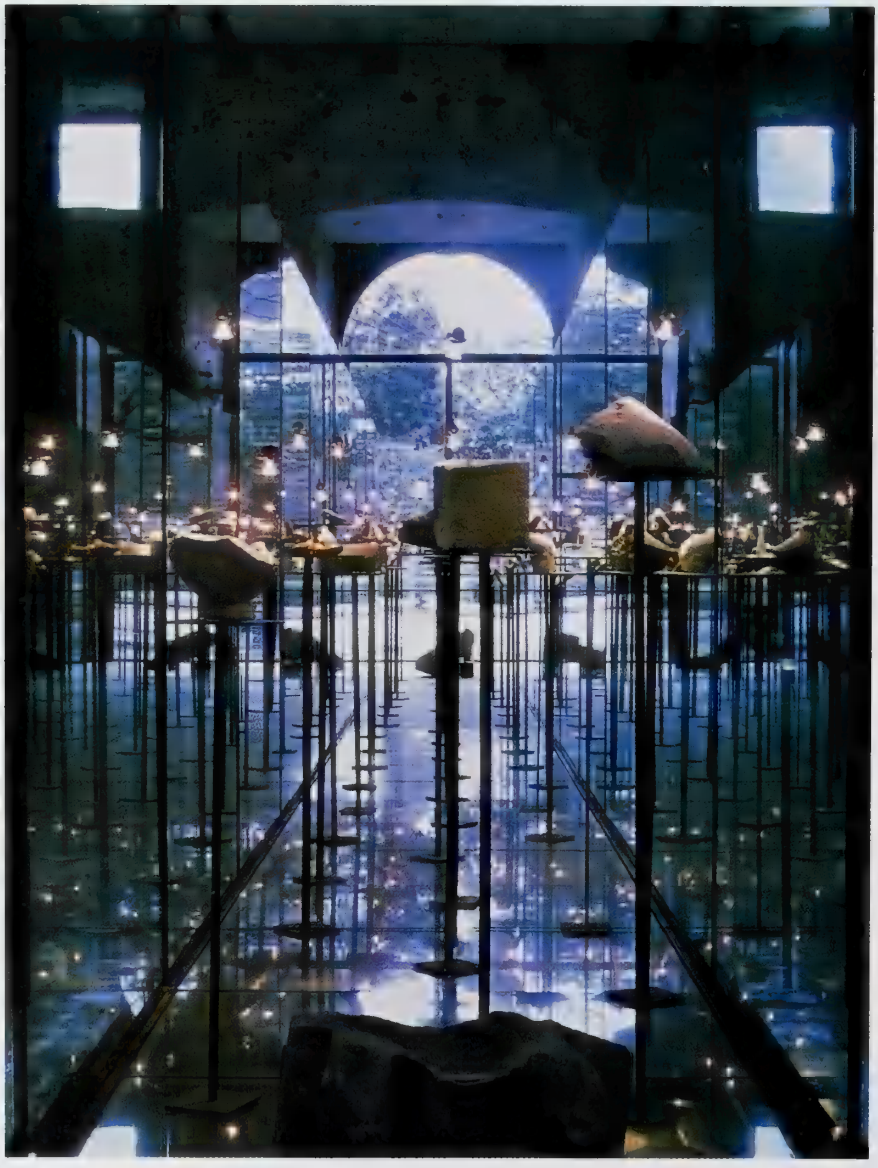
SECOND FLOOR

1. *Entrance*
2. *Main gallery*
3. *Glass-enclosed exhibition case*
4. *Service structure*
5. *Gallery*
6. *Exhibition hall*
7. *Auditorium*









Exhibition spaces accommodate many types of artifacts (above left). A crisp glass rail acts as a boundary between the restored shell and the new second floor (above right). For the enclosed display (right), the architect used double-paned glass with a greenish tint to give the space depth and to create a sense of kinetics within the ancient walls.

conferences. Museum director Giovanna Cappelli sits in a glass-and-steel office at the top of the central service space and enjoys views down through the glittering interior.

Splitting both first-floor exhibition rooms is a glass-enclosed trough that acts as a spine and contains individually mounted artifacts from Tuscolo, an ancient settlement nearby. Beneath the stands, artifacts are displayed in a glass-capped trench dug into the building's floor. Unfortunately, the trench is not climate-controlled, resulting in an unintended (yet nonetheless interesting) murky subterranean cavern.

Adding a second story both increases the floor space and creates a dialogue between old and new. The new floor of glass and steel rests on a raw, rusting armature of structural steel. It seems to float aloft, separated from the old walls by a gap of several feet, which symbolizes an important design concept. "We wanted to be clear about what was new and what was old," says Lorenzo Accapezzato, an architect in Fuksas's office who oversaw the design. "We also wanted to create a new structure inside of the old, so if the client decides to renovate the interior, the museum could be taken out and the shell of the restored building would remain." Details like the Pompeii-red painted walls provide a skein of continuity for the disparate programs within the building.

Commentary

Much of the design is concerned with creating a unified sense of space, easing circulation, and making visitors aware that this building is unique among old buildings in Frascati. The design accomplishes these goals with an air of restraint. "The museum was a fortunate meeting between contemporary architecture and our history," says Fuksas. Adds Accapezzato, "You can see where, in the 18th century, they added more [material] to the walls and inserted a third floor. We wanted to open this up so the visitor can see the stratification of time." ■



A steel and wood staircase ascends along an old wall to the new second floor, which has exhibition space and a conference room for up to 200 people.

Sedgwick Rd.
Seattle, Washington

4 **OLSON SUNDBERG KUNDIG ALLEN ARCHITECTS GIVES A LIFT TO AN AD AGENCY WITH AN OFFICE THAT FOSTERS CREATIVITY AND OPENNESS.**

By Sheri Olson, AIA

Architect: *Olson Sundberg Kundig Allen Architects—Tom Kundig, AIA, principal in charge; Janice Webb, project manager; Alan Maskin, Kristen Becker, Kirsten Murray, Stephen Wood, design team*
Client: *Sedgwick Rd.; Manning Family (building owner)*
Engineers: *Holaday Parks (mechanical); Haaland & Associates (electrical)*
Consultants: *The Seneca Group (owner's representative and project manager); Mike Stanley*
Contractors: *Schuchart*

Size: *33,015 square feet*
Cost: *$2 million (construction)*

Sources
Steel stairs and rail: *Standard Steel Fabricating (drawings); Big Doors (fabricators); CHG Buildings Systems (installation)*
Glazing: *Emerald Glass*
Window coverings: *Iris Window Coverings*
Doors: *All New Glass (steel pivot doors); Tangent Associates (wood doors)*
Workstations: *Schuchart*
Fabric walls: *Koryn Rolstad Studios*
Cabinetwork and custom woodwork: *Master Millwork*
Steel floor: *Schuchart*
Workstations: *Schuchart*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Video monitors and computer screens have replaced the steam engines that once rolled off the assembly line in this former machine shop. But it's still a factory, retooled to produce ideas. In 2001, the Seattle subsidiary of New York–based ad agency McCann-Erickson moved and recast itself as Sedgwick Rd., the name of a Port Orchard, Washington, street leading to a ferry dock. "It's the idea that Sedgwick Rd. can take you anywhere," says agency president Jim Walker. Recently, the company turned to Olson Sundberg Kundig Allen Architects of Seattle to dismantle the creative roadblocks thrown up by the traditional design of the company's previous post.

Program

Sedgwick Rd.'s old quarters in a downtown Seattle office tower mimicked the buttoned-down layout of McCann-Erickson's Madison Avenue offices, with executives seated along windows and staff located in the center. "We wanted our new office to reflect the collaborative way our West Coast clients work," says Walker.

According to a company poll, departmentalization and its toll on communication were primary concerns for the staff. Walker wanted to

Sheri Olson, AIA, is RECORD*'s Seattle-based contributing editor and architecture columnist for the* Seattle Post-Intelligencer.



to break down barriers among the agency's creative, media, strategic planning, and branding teams. "Our job was to find ways of mixing up these groups," says Tom Kundig, AIA, the principal in charge.

Walker wanted to create a more open culture by eliminating private meetings. "I wanted the new offices to be comfortable for one person, big enough for two people to stand in and compare notes, but impossible for three to work in," says Walker. He also desired informal areas where people could assemble for ad hoc meetings. "Most of all, they wanted to create a buzz," says Kundig.

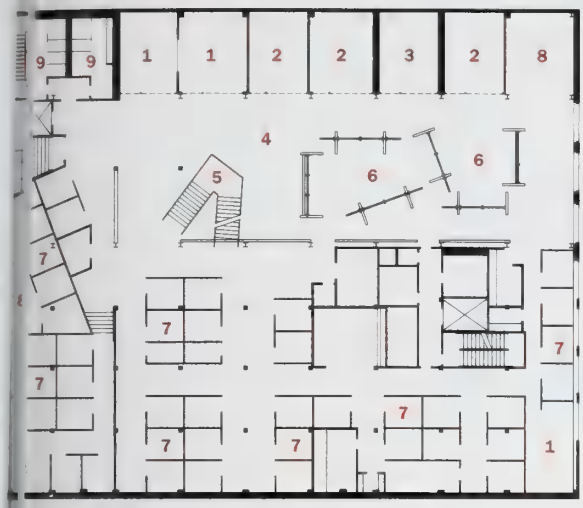
Solution

The new office is on the edge of downtown, in a 1926 brick building unremarkable except for a two-and-a-half-story machine shop with multipaned clerestory windows and a delicate scissor truss of welded steel angles. "I was looking for a big space where everyone could gather for client presentations, officewide functions, and fund-raising benefits," says Walker.

The building was already under renovation by the owner to add a fourth floor, and the machine shop floor was piled high with discarded beam cranes, steel-clad doors, and old window frames. The architects immediately saw treasure in the trash. "The first thing we said during the interview was, 'Stop demolition or you're going to lose the soul of the place,' " recalls Kundig. The comment struck a chord with Walker. "The building has a history, just as the firm does. You don't throw out history even while you're envisioning change," he says.

The architects measured and catalogued what had once been

PHOTOGRAPHY: © OLSON SUNDBERG KUNDIG



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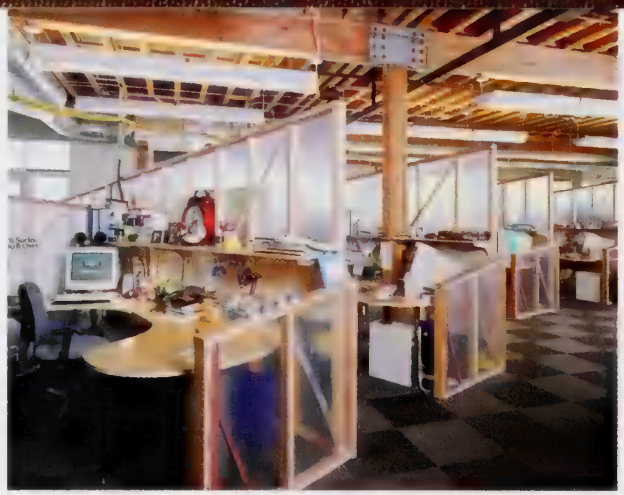
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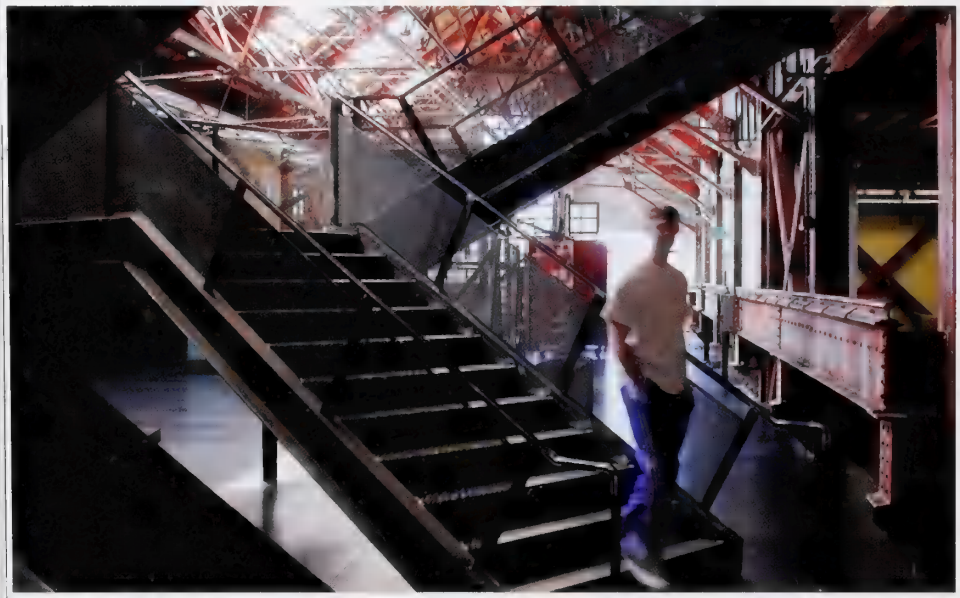
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1. *Meeting room*
2. *Editing room*
3. *Library*
4. *Open office space*
5. *New staircase*
6. *Mobile partitions ("Frankenstein")*
7. *Office*
8. *Informal meeting area*
9. *Rest room*

The old machine shop (opposite) is a bolder choice for an ad firm than its previous corporate space. Salvaged materials were assembled into "Frankenstein" (this page), a partition used by project teams to divide the office spaces according to their needs.







An editing room tucked under the low ceiling (above left) has an oversize door that can be left open to the larger office space beyond. Desk partitions were designed using translucent panels to permit natural light to filter through (above right). A sharply angled staircase (left and below) affords users a close-up view of old trusses and columns. The staircase is a popular gathering spot.



debris. "We had all these odds and ends, like body parts, and no idea how we were going to use them. That's how we came up with the idea for Frankenstein," says Kundig. "Frankenstein" is a pet name for a series of mobile panels—mounted on wheels and built using recycled welding doors, wood windows, and steel beams—that are reconfigured almost daily to create different meeting spaces in the old machine shop.

Former tool rooms on the shop's south side now house editing rooms, meeting areas, libraries, and a bar for officewide events. Deceptively heavy-looking steel doors pivot open at a mere touch, opening these smaller rooms to the central area. "The doors are made of sheet steel bolted onto an aluminum frame. It's an inexpensive way to make big doors," explains Kundig.

In the office space overlooking the machine shop, boundaries are not firmly drawn between departments. Instead, desks are clustered or stretched along a sinuous line, freeing up valuable daylit spaces for informal gatherings.

An oversize stair cranks around columns and between trusses connecting the first and second floors. "It's extra wide so that people stop and talk," says Walker. One of his favorite places to answer e-mail is along the balcony overlooking the open office area, on a perforated metal railing.

Commentary

It looks like fun, but is it productive? "Our work has gotten better due to the design; we're all on the same page now," says Walker. The company's performance appears to support his claim—Sedgwick Rd. has grown 30 percent in staff since moving in 2001. Walker also sees the value of a space for an ad agency that is far from neutral. "Sometimes it's hard to sell an idea in a corporate conference room. It can look riskier than it is. Here, the hum of life going on around you provides a more realistic context," he says. Mined for its valuables and refreshed by new design thinking, the factory is back in business. ■





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Tapping the Synergies of Green Building and Historic Preservation

PROPONENTS OF THESE TWO HIGHLY DEDICATED AND CONCERNED MOVEMENTS ARE FINDING WAYS TO WORK TOGETHER TO ADVANCE THEIR MANY SHARED VALUES

By Nancy B. Solomon, AIA

For decades, there has been an underlying tension between historic preservation and environmental design: the former seeking to protect our history and culture, typically by applying traditional methods of construction and conservation to familiar buildings from the past; the latter trying to protect human health and natural habitat and promote alternative sources of energy, often through the application of innovative technologies and construction methods to novel forms. Although the two movements came of age in the mid-20th century, emerging largely in response to the post–World War II era of unbridled development, they eyed each other with suspicion. Like siblings born a few years apart—perhaps feeling threatened by the other's position in the architectural family—it's taken until middle age for them to realize that the ties that bind them are much greater than their differences.



The renovation of the Metzenbaum Federal Building and U.S. Courthouse will incorporate many sustainable strategies, including refurbishment of the building's ornamental interior by local artisans.

"I'm delighted to see these two camps working together in the past 10 years," says Carl Elefante, AIA, a self-described "solar hippie" from the 1970s working for Quinn Evans Architects in Washington, D.C., a firm devoted to historic preservation. He attributes much of this cooperation to increased dialogue. "There are many synergies between historic preservation and environmental design," says Elefante, "and few problems with resolving conflicts—no big issues, just red herrings."

Indicative of this growing partnership, the U.S. General Services Administration (GSA), which oversees many of the nation's historic landmarks, now requires LEED certification for all new capital projects, including major renovations. LEED, the acronym for Leadership in Energy and Environmental Design, is a consensus-based rating system developed by the U.S. Green Building Council to evaluate sustainable design measures in buildings. Several historic buildings currently being rehabilitated by GSA, including the Howard M. Metzenbaum Federal Building and United States Courthouse in Cleveland, are working toward a LEED rating. "We don't see a conflict between preservation and sustainable design," says Donald R. Horn, AIA, an architect with GSA's Sustainable Design Program.

In retrospect, this doesn't come as a surprise: After all, conservation underlies the basic principles of both the preservation and the sustainable movement. Many of the typical design strategies of one reinforce the goals of the other. In some cases, new green technologies are helping to resolve the complex demands now placed on our historic structures. And the two movements share some similar challenges. Nonetheless, a few areas of conflict do exist, which for the most part can only be resolved case by case, depending on the specific conditions and the priorities of the client. Some current policies may be unnecessarily exacerbating tensions between the two.

Natural partners

The preservation of existing structures typically has several inherent sus-

Nancy B. Solomon, AIA, writes about architectural design, practice, and technology.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 162 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *Explain how historic preservation projects can meet sustainable design guidelines.*
2. *Discuss ways of retrofitting old buildings with new environmental systems.*
3. *Describe LEED certification requirements.*

For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**.



The Metzenbaum Building's shallow floor plates wrap around a courtyard, which affords light and air into the interior offices. The space is being converted into a skylit, public atrium.

tainable benefits. First and foremost is the reuse of an existing shell and any interior components. These exterior and interior materials embody energy—the energy that was required to harvest, transport, and process the raw materials and to transport and install the building elements. By saving these already manufactured parts, preservationists also save energy. "In terms of a material, the greenest thing you can do is continue its life. Next comes salvage and reuse, then recycling. Specifying new green materials is last," says Elefante.

Reuse was one of the priorities in the renovation of the S.T. Dana Building at the University of Michigan in Ann Arbor. Built in 1903, the masonry structure was recently renovated by Quinn Evans in collaboration with William McDonough + Partners, in Charlottesville, Virginia. Elefante calculated that, in terms of embodied energy, the building's bricks alone represent about 135 gasoline tanker trucks of energy. The team also salvaged material from one part of the building for another: Old-growth pine timbers that were removed from a portion of the roof were refashioned into railings and other interior details.

By saving these already manufactured components, preservationists also avoid adding to the waste stream. According to John Ochsendorf, assistant professor of building technology at MIT's Department of Architecture, it has been estimated that 140 million tons of construction waste goes to U.S. landfills each year. "If we build buildings well and save the ones we have, we cut back o waste," says Ochsendorf.

Waste reduction is a significant component the Metzenbaum renovation program. In addition t reusing the shell and a significant portion of the int rior materials, the Cleveland architecture firm of va Dijk Westlake Reed Leskosky (vDWRL) is participatin in a pilot program developed by the Cleveland Gree Building Coalition and the Cuyahoga County Soli Waste Management District to determine the feasibilit of reducing and recycling construction waste.

Nonhazardous waste is separated, quantified and tracked. According to vDWRL architect and LEED specialist Monica Green, "Most material is being purchased by businesses for reuse. Hardly any is going t landfill." All waste is being tracked and quantified, and the net profit (sale of waste minus expense of separation) will be compared to local tipping charges to determine if the program is financially viable.

Restoration of an older building on an already disturbed site means less pressure for construction on green sites. And because historic buildings were typically built in downtown settings, they are usually on a transit line and in close proximity to other establishments, thereby maximizing the use of mass transit and minimizing both transportation-related energy consumption and parking space requirements.

Historic renovations often try to specify regional materials and employ local craftspeople: The former reduces the amount of energy consumed in the transportation of goods, and the latter promotes a sustainable local economy. In addition, in the days before synthetics, air-conditioning, and seemingly abundant and inexpensive energy sources, old construction techniques maximized natural materials, natural ventilation, and daylighting—priorities that have been revived with sustainable design. For example, cork flooring, popular in the 1930s, has recently made a comeback in green buildings. Shallow floor plates wrapped around a central courtyard, double-loaded corridors, and numerous operable windows were common in older buildings, such as Metzenbaum. This kind of parti reduces the need for artificial light and offers occupants more control over their space, thereby helping to conserve energy and improve the quality of the indoor environment.

Green technologies to the rescue

"One of the knocks about historic buildings," explains Elefante, "is that they have crumby old radiators and boilers that can only be retrofitted with great difficulty." There is some truth to this, but advances in environmental systems and strategies are offering new solutions to this preservation challenge.

One of the most striking examples of this can be found at Trinity Church in Boston. Designed by Henry Hobson Richardson in 1877, the landmark was recently renovated by Goody, Clancy & Associates of Boston. The work included a new undercroft, or meeting space, beneath the sanctuary. The architect wrestled with where to put a conventional mechanical system to condition this area. Steep roofs and high visibility made a roof-mounted cooling tower impossible. And a mechanical system inserted—only with much effort—into the unused



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tower-attic spaces would pose a risk to the priceless art below in terms of both vibrations and water damage.

Instead, the design team opted for a geothermal system. About 8 feet from the exterior walls, six holes were drilled 1,500 feet deep and filled with 4-inch-diameter hollow plastic tubes. Water in these tubes will hover between 50 and 55 degrees—the constant temperature of the earth at this depth—providing a moderate source for heating during the winter and cooling during the summer (see diagram, right). According to principal Jean Carroon, AIA, the first costs of the geothermal system was comparable to that of a conventional system in this sensitive renovation project, but over time it will provide an operational payback in terms of lower energy costs.

Preservationists are benefiting from new thinking about indoor environment. For example, Elefante explains that current research suggests that fresh air needs to be delivered to people to breath, but not necessarily to heat and cool them. Small amounts of air can be distributed via operable windows or underfloor ducts—providing oxygen to the occupant where needed—while room temperature can be modulated more efficiently with other systems. In addition, continues Elefante, studies indicate that radiant systems are much more effective than convective ones in terms of how the human body reacts to temperature change. "Why blow all this air around when I can more effectively change the temperature with water, which is also more efficient to move and takes up less space?" he asks.

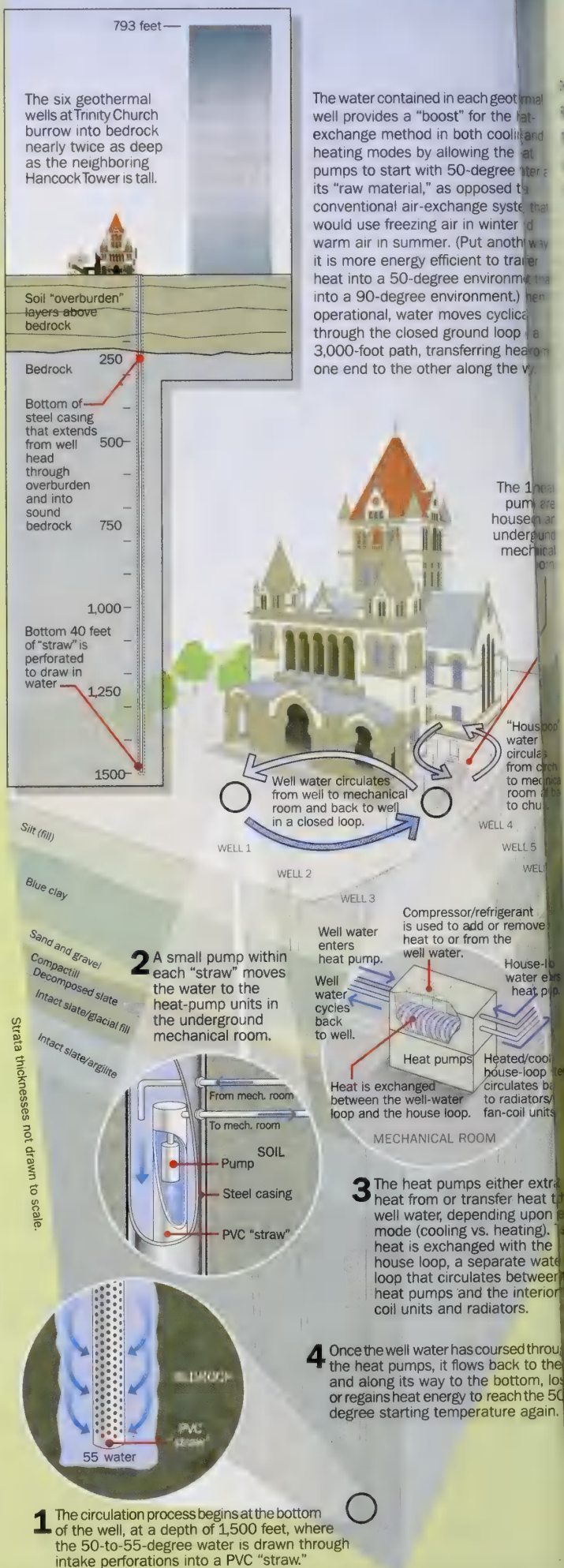
In Dana, the existing operable windows were reconditioned to deliver fresh air, portions of the old steam-heating system were retained, and radiant panels were suspended from the ceiling for cooling. Cold water running through 1¼-inch piping in these panels draws heat out of the rooms on hot days. Integrated with lighting, the thin-profile units eliminate the need for ductwork and suspended ceilings—the bane of historic buildings, which typically feature high and often decorative ceilings.

Goody, Clancy is looking into other innovative environmental technologies, as well, including photovoltaic panels, green roofs, steam backpressure turbines, condensate-heat-recovery and water-recovery systems, titanium-dioxide window coatings, and fuel cells—for possible application in GSA's upcoming renovation of the John W. McCormack Federal Building, a 22-story Art Deco building in Boston originally designed by Cram and Ferguson in the 1930s.

The design team—which also includes Cosentini Associates for mechanical engineering and Steven Winters Associates as green-building consultant—hopes these and other green technologies will make this relatively unassuming building less expensive to operate and a great place to work, while maintaining its historic character. In this way, they hope to encourage owners of similar buildings to do the same, thereby helping to sustain the larger urban context. "Unless highly decorative," explains Carroon, "older buildings are not very fashionable and are therefore most at risk for removal."

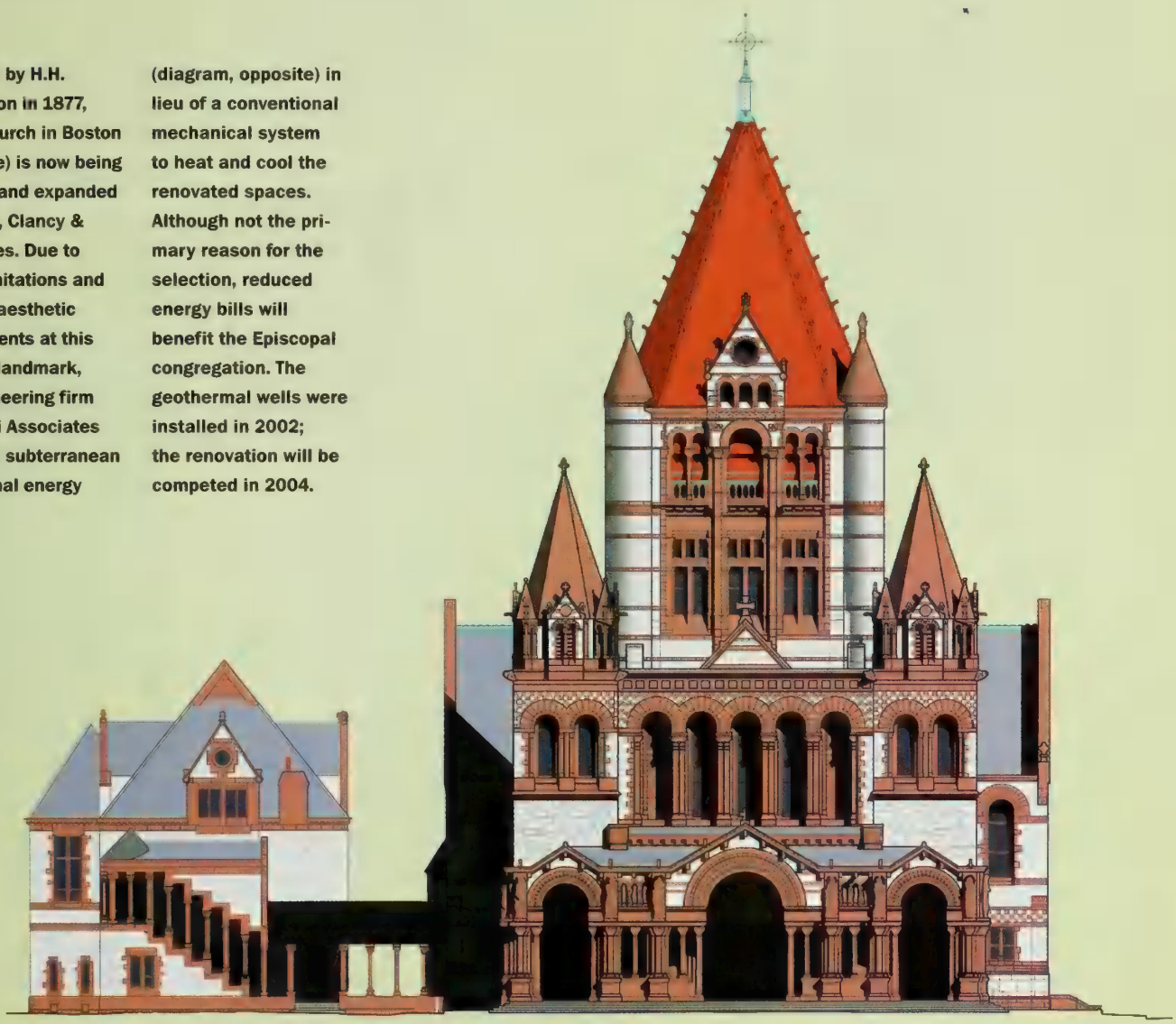
Common concerns

Ochsendorf points out that both preservation and sustainable design share some similar challenges, as well. In regard to materials, for example, all standards address new materials. To reuse a building component, such as a salvaged beam or old flooring, an engineer must undertake a custom calculation. This is an added burden for historic renovations and sustainable design alike. Even worse, existing structures are sometimes torn down simply because standards don't exist and the average engineer doesn't know how to calculate the bearing capacity for the older structure. According to Ochsendorf, this was the fate of some Guastavano tile vaultings, despite the fact that they had plenty of extra capacity. "This is a catastrophe from the



PHOTOGRAPHY: © 2003 TRINITY CHURCH IN THE CITY OF BOSTON (OPPOSITE); ILLUSTRATIONS BY GOODY, CLANCY

Designed by H.H. Richardson in 1877, Trinity Church in Boston (this page) is now being restored and expanded by Goody, Clancy & Associates. Due to space limitations and rigorous aesthetic requirements at this national landmark, the engineering firm Cosentini Associates proposed subterranean geothermal energy (diagram, opposite) in lieu of a conventional mechanical system to heat and cool the renovated spaces. Although not the primary reason for the selection, reduced energy bills will benefit the Episcopal congregation. The geothermal wells were installed in 2002; the renovation will be competed in 2004.









In a recent renovation of the S.T. Dana Building at the University of Michigan, built in 1903, a fourth floor was inserted on top, beyond the sight lines (below). The railing in the new atrium was made from recycled glass (left).

viewpoint of both the preservationists and the environmentalists," says Ochsendorf. He cites a group in Cambridge, England, called the Bridge Research Center that is working on educating engineers on new methods of structural assessment designed to evaluate older structures.

Inherent conflicts

Despite the many shared values and concerns between preservation and sustainable design, occasionally conflicts do arise and trade-offs have to be made. Energy efficiency is probably the most problematic area, with windows generating the most controversy.

Another pet peeve of preservationists is the practice, required in some jurisdictions, of insulating the interior of thick masonry walls and installing a vapor retarder. In cold climates, this technique can reduce heat loss but can also reduce the ability of the wall to dry out when wet, thereby creating freeze/thaw cycles within the wall that can cause deterioration in the load-bearing masonry, explains engineer Matthew Bronski of Simpson Gumpertz & Heger in Waltham, Massachusetts.

Lighting requirements and preference can also generate conflicts. In the Metzenbaum project, for example, the architects chose to retain the original incandescent luminaires in the courtrooms and judge's chambers and provide higher light levels by specifying additional, replicated incandescent fixtures to maintain the historic character of these ceremonial spaces. Says Paul Westlake, Jr., FAIA, managing principal of vDWRL, "We had to clear it with GSA, because we do have some clients who say they will not have any incandescent."

Policy glitches

The biggest complaint many preservationists seem to have with the sustainability movement does not pertain to the concepts themselves, but to LEED. First introduced in March 2000, the rating is essentially a checklist divided into six basic categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environment quality, and innovation and design process. Within each category are various prerequisites and suggested strategies. A building receives points for implementing a particular strategy within a category. Buildings that earn the required minimum number of points are considered LEED certified.

Although most historic structures undergoing major renovation easily win points on several counts—including reuse of existing shell and proximity to public transportation—some practitioners have expressed concern that the current rating system, which is being required by more and more well-meaning clients, does not give sufficient credit to preservation practices or take into account certain limitations. Jean Carroon notes that without significant alteration of the building fabric many







The Cleveland Green Building Coalition bought a 1918 bank (above left) and renovated it using many sustainable features, including a green roof (above center), solar panels, a geothermal system, and waterless urinals. A radiant heat system was installed in the 26-foot-high lobby (right).

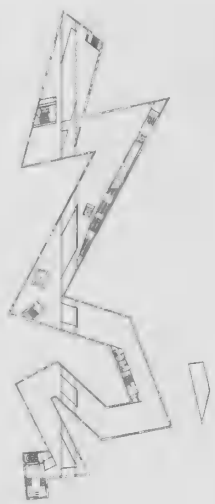
COURTESY THE ARCHITECT (TOP LEFT); COURTESY THE ARCHITECT (TOP RIGHT)



Jewish Museum, Berlin, Germany, Daniel Libeskind Architectural Studio

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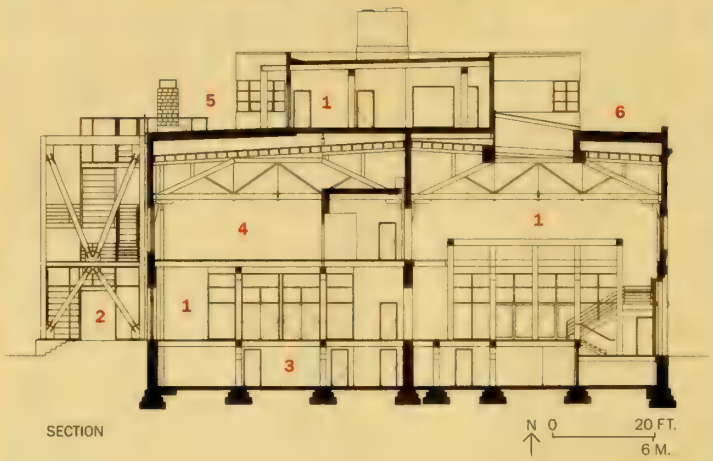
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Renovated in 2001 by Holst Architecture, the Jean Vollum Natural Capital Center in Portland, Ore. (left), is the first historic building to receive a LEED gold rating.



1. *Lobby*
2. *Raised walkway*
3. *Basement*
4. *Event center*
5. *Terrace deck*
6. *Green roof*

unlisted historic buildings cannot meet the tighter envelope requirement of ASHRAE 90.1, which is a prerequisite of LEED. (Fortunately, LEED does make allowances for listed historic buildings.)

To bolster their position, preservationists cite a recent study undertaken by Chris W. Scheuer and Gregory A. Keoleian at the University of Michigan's Center for Sustainable Systems on behalf of the Building and Fire Research Laboratory at the National Institute of Standards and Technology (NIST). The admittedly limited analysis suggested some inconsistencies within the LEED credit system. In their general research conclusion, the researchers write: "The lack of comparability between LEED ratings and LCA [life cycle assessment] results indicates that when considered in a life-cycle perspective, LEED does not provide a consistent organized structure for achievement of environmental goals.

Despite these criticisms, no one wants to turn back the clock. Carroon sees LEED's checklist format as a useful tool to motivate those who are less informed, but he believes architects should strive for something greater—integrated design for the long term and in the context of community and culture.

Nigel Howard, vice president for LEED & International Programs at the U.S. Green Building Council, acknowledges that the first version of LEED was not designed explicitly for historic buildings. But another version now in development may be more applicable for at least some aspects of historic buildings. "LEED is on a cycle of continual improvements. I can imagine that these issues will be taken up in future versions of it." Only then, perhaps, will the sibling rivalry finally end and the two symbiotic movements truly join forces for the common good. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Tapping the Synergies of Green Building and Historic Preservation" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 230).**
- **Fill out and submit the AIA/CES education reporting form (page 230) or download the form at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. The sustainable benefits of preserving existing structures include all except which?
- **a.** reuse of existing materials
- **b.** save labor costs
- **c.** construction-waste reduction
- **d.** minimize energy consumption

2. In terms of a material, which is the greenest thing you can do?
- **a.** Reuse
- **b.** Recycle
- **c.** Specify new green materials
- **d.** Continue its use

3. Which is the most problematic conflict between preservation and sustainable design?
- **a.** Engineering calculations
- **b.** Lighting requirements
- **c.** Energy-efficient windows
- **d.** Insulation of walls

4. LEED certification is required for which projects?
- **a.** All building projects
- **b.** All government building projects
- **c.** All new capital projects
- **d.** All new green building projects

5. Which of the following is not true of LEED?
- **a.** It is the consensus-based green-building rating system
- **b.** It was developed by the U.S. Green Building Council
- **c.** It evaluates sustainable design measures in buildings
- **d.** It is an acronym for Latent Energy and Environmental Design

6. The basic principle underlying both preservation and sustainable movements is which?
- **a.** Conservation
- **b.** Technology
- **c.** Politics
- **d.** Suspicion

7. Embodied energy includes all except which?
- **a.** Transporting building materials
- **b.** Processing raw materials
- **c.** Installing building elements
- **d.** Energy given off by burning the building materials

8. The benefits of restoration on an already disturbed site include all except which?
- **a.** Less green-site demand
- **b.** Less demand for new sod
- **c.** Maximizing the use of mass transit
- **d.** Minimizing parking-space requirements

9. One of the biggest challenges in restoring historic buildings is which?
- **a.** Getting LEED certification
- **b.** Hiring local craftspeople
- **c.** Designing an environmental system
- **d.** Reproducing authentic materials

10. Historic renovation promotes sustainable building benefits through all except which?
- **a.** Using incandescent lighting
- **b.** Using local craftspeople
- **c.** Using natural ventilation
- **d.** Using regional materials

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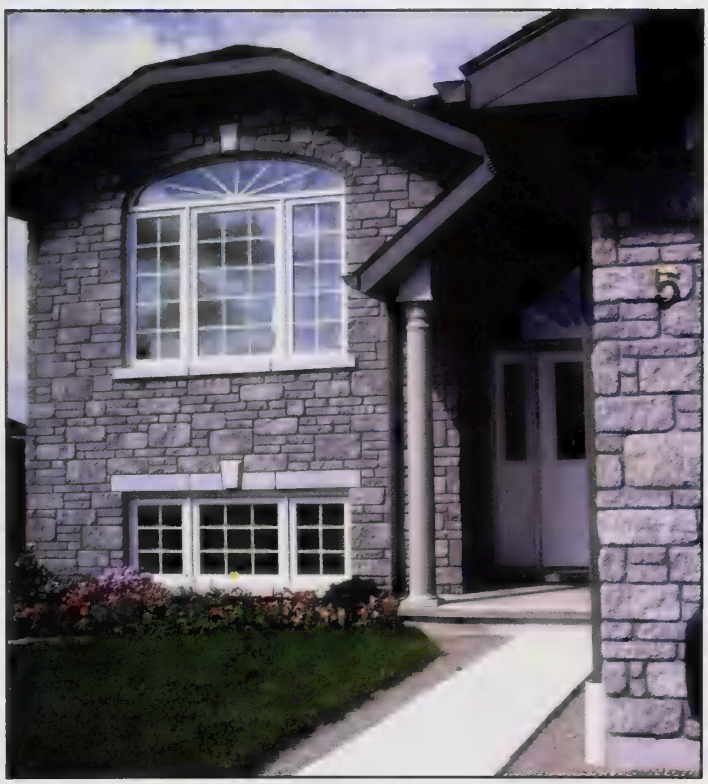
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Digital Architect

High-tech tools help preserve the past

By Alan Joch

Frank Lloyd Wright's Fallingwater, the iconic residence in western Pennsylvania, had a dirty little secret. The exhilarating concrete terraces that hover over Bear Creek seemingly defy gravity, their support coming from reinforcing steel within the concrete. But the terraces were only temporarily fighting off gravity's pull, like an arm wrestler gallantly losing out to a stronger opponent.

Fears that the terraces would eventually fail surfaced during construction of the house, but no one knew the full extent of the danger until the mid-1990s. Armed with special radar devices and innovative measurement tools that daily recorded the movements of microscopic surface cracks, engineers hired to evaluate the historic treasure came to a startling conclusion: The main terrace had sunk 7 inches in about 60 years. Fallingwater wouldn't be around for another six decades unless it underwent drastic structural renovation. "It was in a state of stress beyond what we were comfortable with," recalls John Matteo, an associate at the Washington, D.C., office of Robert Silman Associates, the engineering consultant.

The analysis, much of it done with nondestructive testing equipment and high-tech computer models, spurred Fallingwater's caretakers into action. An $11 million preservation effort is now underway to make the building structurally sound and to fix more than 60 leaks that have warped doors, peeled paint, and stained interior walls [RECORD, May 1999, page 97].

Fallingwater's restoration needs are not unique, but the Wright site is noteworthy for the range of technological tools architects and engineers are employing. Used by chemists and metallurgists for years, these technologies are now being adopted to gain a complete understanding of a building's condition while causing the least amount of damage.

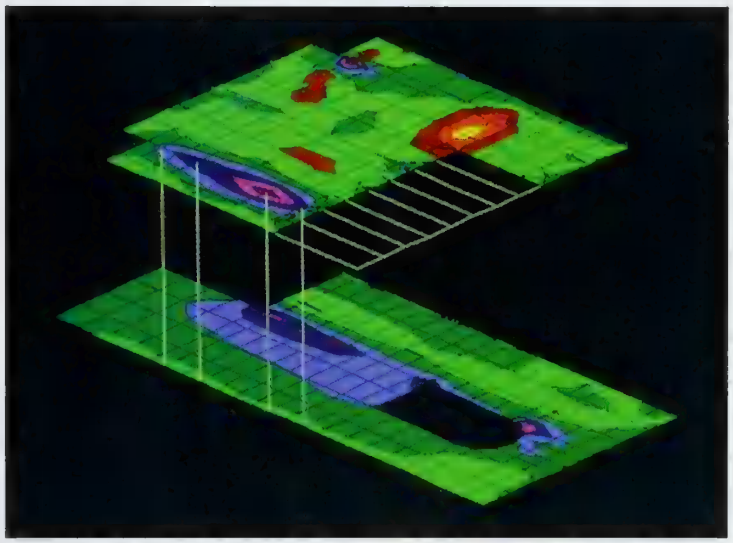
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For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at **www.architecturalrecord.com**.

High-tech toolbox

Historic preservation is on the rise both for the intrinsic value of maintaining architectural treasures and for economic reasons. The Historic Preservation Act of 1966 provides investment tax credits of 20 percent for owners of historic commercial and public buildings that are refurbished using guidelines established by the National Park Service. Thirty-seven states now give an additional tax credit of 10 percent, and many are considering extending credits to historic homes, says Roy Eugene Graham, FAIA, director of the graduate program in urban conservation at The Catholic University of America, in Washington, D.C.

In addition to knowing the intricacies of preservation standards, architects need to understand the construction methods and makeup of historic buildings inside and out, often without the benefit of original design drawings. No matter how advanced technology becomes, the first step in assessing a building's health remains visual inspection. "We use a host of handy gadgets, but the most important one is our eyes," says Eric Hammarberg, associate and interim director of preservation at LZA Technology, a New York engineering consultant.



Software that assists in nondestructive evaluation highlights where leaks have occurred in a facade (the blue areas show where water has penetrated).

To probe more completely, architects then may use rectified photography to help assess a building's condition. Rectified photos are manipulated during the printing process for perspective, so that horizontal and vertical edges aren't marred by parallax distortions (most CAD software does this automatically). "If you've done a good job of adjusting for parallax, you can use that image to trace an elevation or a detail," says David G. Woodcock, FAIA, director of the Historic Resources Imaging Laboratory in the College of Architecture at Texas A&M University, in College Station.

To peer inside historic structures, architects also use thermal imaging systems, which depict temperature variations through color gradations, thus showing where leaks in a facade, window, or other structural element may lead to unseen internal deterioration. "Cooler areas indicate where water [has penetrated]," says Derek Trelstad, senior project director at LZA.

Other tools include X-ray devices that determine the structural components of wall sections without having to drill into them. When surface cracks appear, motion monitors track the almost imperceptible sagging in historic structures over time. The monitors use small wire segments that span cracks and register minute movements as cracks expand and shrink due to temperature fluctuations or settling. Engineers may monitor hundreds of different cracks on a building and track data for a year or more. "The data highlight where we should focus our efforts," says Hammarberg.

Under the microscope

For high-tech diagnostics on a par with the forensic science seen in

television dramas, Wiss, Janney, Elstner Associates (WJE) operates its own materials-testing lab at the company's headquarters in Northbrook, Illinois. "If we suspect a problem with a particular material, we send it to the lab for analysis," says Kyle C. Normandin, an architect with WJE's New York office. "It makes our job that much more thorough." His firm is using the lab on an ongoing restoration of New York's Metropolitan Museum of Art's facade on Fifth Avenue. Samples of its Indiana limestone went to the lab, where analysis revealed that problems around the mortar joints weren't allowing water to escape off the facade quickly enough. Lab technicians determined that the cement-to-limestone ratio in the mortar contained too much of the former. Architects are now repointing the area with a more effective composition.

Similar detective work is aiding Fallingwater. Pamela Jerome, senior associate for preservation at the architectural and engineering firm Wank Adams Slavin Associates (WASA) in New York, joined the sleuthing when WASA was hired to guide the Fallingwater restoration effort. Part of her work consisted of restoring the interior paint finishes. WASA collected paint samples and sent them for analysis to an outside testing lab, where technicians were able to determine the number of paint layers that had been applied to the interior, the chemistry of the paints, and their exact colors. "The lore of the house was that the exterior and the interior were painted the same color, and that appears to be true," Jerome explains. But soon after Fallingwater's completion, someone repainted the interior a much lighter shade. Jerome knows the house was repainted quickly because the analysis showed very little dirt trapped between the first and second paint layers. "We speculated that the family found the interior to be dark and decided to tone it up a few shades," Jerome says. "Or it could have been Frank Lloyd Wright who made the decision. He fussed with the building long after it was built."

Silman Associates used a number of other diagnostic tools to assess Fallingwater's structural integrity. Engineers relied on a structural analysis program from software maker SAP AG to model the building's settling pattern. Motion monitors logged data on cracks in the concrete for a year and a half, and the staff then plotted



The Fifth Avenue facade of the Metropolitan Museum of Art, undergoing restoration by Wiss, Janney, Elstner Associates.

seasonal fluctuations in the sizes of the cracks as well as overall movement trends. To bolster this data, a surveyor pinpointed elevations along the parapets, and these numbers were compared to those on the original drawings. Taken together, the data showed a slow, steady sagging of the terraces from their original positions.

Matteo says that while the data revealed stress points, technology couldn't answer the question on everyone's mind: How much longer would it be before Fallingwater's terraces failed? Stories had surfaced during Fallingwater's construction that the reinforcement of the concrete terraces specified by Wright was inadequate, and rumor had it that the builder doubled the number of reinforcing rods Wright had called for, but no one could verify this claim.

To answer this question, Silman hired GB Geotechnics (GBG), of Cambridge, England, to inspect the reinforced concrete using impulse radar. GBG used a transducer to send a radar wave into the concrete, which reflected the wave back to the surface when it detected reinforcing steel. The transducer sent readings to a data recorder, which then created a rough image of the underlying structure. Engineers compared these readings to the original drawings. The result: "The builder did double the reinforcing," Matteo says. "This was important to know so we could define the building's existing capacity."

Pragmatic preservation

Graham believes that nondestructive diagnostics will become even more important in the years ahead. They allow preservationists to surgically find and fix hidden problems without causing excessive damage. "Because we're more educated about how to evaluate existing buildings, it costs the same or less to fix one that's already standing than to build a new building," he says. ■



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USG PRESENTS

Designing Partition Systems for Practicality and Performance

By: Robert Grupe
Director, Architectural and Technical Solutions
United States Gypsum Company

When a project calls for a special partition that incorporates considerations for height and performance, where does one start? Is there a methodology to designing partition systems? Yes, there is a proven technical approach to partition system design.

While architects and designers are all too often inundated with the hype of one product over another, a single product does not make a system. Professionals must consider many design parameters to achieve the best solution to a given problem. This article will analyze key design considerations and product attributes, as well as provide guidance in designing partitions.

The process starts with the understanding that there are six primary factors: fire resistance, acoustical performance, structural capacity, moisture, abuse resistance and aesthetics. This article will review each one and provide direction on a system solution.

A good designer must look at all facets to determine the best possible design solution.

To illustrate this design process, we will go through the required steps to design a partition in a simulated hospital project. The wall in question separates adjacent hospital bedrooms. Based on the building type and occupancy, the codes dictate that the wall must carry a two-hour fire rating. The floor to deck height is 18 feet. Finally, the client is concerned about moisture conditions, primarily mold.

We will develop a solution as we examine each step of the design process.

Fire Resistance

Fire resistance is determined by local code requirements. The codes will establish if the materials in the partition can be non-combustible and, when installed in a system, what the hourly fire resistance must be. In this case, all the materials must be non-combustible and the fire rating must be two hours. That means the primary framing element, the stud, must be made of steel (as opposed to wood). Gypsum panels are recognized by the code as non-combustible, so we can proceed in determining what we need to do to achieve the two-hour fire rating.

Fire resistance (sometimes called the fire endurance rating) is determined through the test procedure called ASTM (American Society for Testing and Materials) E119 (*Test Specification for Determining the Fire Endurance Rating of Building Elements*). This test method covers what is required of a system to meet the one-, two-, three- and four-hour ratings that the code requires and you specify. Fire endurance ratings are system-based, meaning it is not possible to obtain a fire rating on a single product. Individual products are combined with other products that provide the required fire performance.

CONTINUING EDUCATION

Use the learning objectives below to focus study as you read **Designing Partition Systems for Practicality and Performance.**

To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 173, then follow the reporting instructions on page 232 or go to the Continuing Education section on *archrecord.construction.com* and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- *Analyze key design considerations for partitions*
- *Compare product attributes that affect partition designs*
- *Know six primary factors to consider in designing partitions*

When a fire test is performed, there are two aspects of the test specification that must be met. The first is heat transfer through the wall (this article covers only walls, but the test specification also applies to roofs, floors, beams and columns). The idea is to limit the temperature on the side of the wall opposite the fire to where any combustible material adjacent to that wall will not ignite.

The wall is exposed to fire on one side at a predetermined time/temperature curve. The rate of rise is very dramatic. Within the first five minutes, the temperature is more than 1,000 degrees F. The temperature on the opposite side of the wall is measured at nine locations. This is called the unexposed side. Either the average temperature recorded from the nine thermocouples (electronic thermometers) cannot exceed a certain limit or a single point cannot exceed another (but higher) temperature.

The second portion of the test is structural in nature. The wall is subjected to a hose stream of water from a certain distance, pressure and duration.

To obtain a one-hour fire rating, all the products shown must be installed together. This installation must also follow the method that was used to obtain the fire rating. For example, the maximum stud spacing is 24 inches on center and, for non-load-bearing conditions, the stud should not be screw-attached to the runner. The screws must be a certain style, type S in this case, and the minimum stud depth is $1^5/_8$ inches. If a two-hour wall is needed, we only have to add additional layers of gypsum board.

FIRE ENDURANCE RATING

1-Hour Rating

Comprising:

- Single layer of $^5/_8$-inch Type X gypsum board
- 25-gauge steel studs
- Joints to be finished
- $1^1/_4$-inch screws 12 inches on center
- No insulation required

Getting back to our example, an appropriate choice would be Underwriters Laboratories UL Design U419. That means we need four layers (two on each side) of $^5/_8$-inch-thick Type X gypsum board. The minimum stud depth is $1^5/_8$ inches (if a special $^3/_4$-inch-thick gypsum panel is used) and the maximum stud spacing is 24 inches on center. The design listing further specifies what fasteners to use and to what spacing. In addition, the individual gypsum panels must be staggered with respect to adjacent panels.

Stud Selection

Next in the design process is determining the size of the stud needed to obtain the 18-foot height. When determining the depth and steel thickness, one must evaluate three different structural considerations. They are deflection, end reaction shear and bending strength. Deflection is a function of the relative stiffness of the system and is usually limited by the ratio of L/240 for drywall partitions. That is the span in inches divided by 240. If we take a 10-foot high partition and limit it to L/240, we are not allowing the wall to move $^1/_2$ inch at mid-span. Deflection greater than the L/240 ratio doesn't spell imminent collapse (although it may), but more typical is the greater probability that the finish material may crack.

The next item to consider is called end reaction shear. Each stud must carry the load that is applied from its tributary area and transfer that load (called lateral load) back to the structure. In doing so, there is a build-up of stress where the stud terminates into the runner. This is called end reaction. If the stress exceeds the capacity of the web of the stud, buckling—and therefore structural failure—will result.

Bending strength is a measure of the stud's capacity to handle the bending stresses primarily within the flanges of the stud. When a load is applied perpendicular to the stud, the flange closest to the applied load goes into compression while the flange opposite the applied load receives tensile forces. In engineering terms, the combination of compression and tension forces is called "moment" and the maximum moment will occur in the center of the span—considering a uniform load and simple span. A stud running from floor to slab is considered a simple span condition and the maximum bending stress is found at the center of the span.

All of these calculations are readily available in publications such as ASTM



Wall system performance is based on implementation of good design practices.

C754 (*Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products*) and the Steel Stud Manufacturers Association's *Product Technical Information* brochure. It's a simple matter of picking a load (5 psf for interior walls) and deflection limitation (L/120, 240 or 360). For drywall, L/240 is recommended and for plaster, it would be L/360. Then pick a stud spacing. Glancing vertically down the page will give you the first stud with the height you need.

Finally, it is important from a design standpoint to specify studs with a corrosion-resistant coating. The best available is a galvanized coating.

Returning to our example, here are a few things to keep in mind. If economy is a prime consideration, then always select a deeper stud at a thinner steel thickness. Also try and choose 24 inches on center. If abuse resistance is a concern, then spacing should move to 16 inches on center.

In this case, since it is a hospital, it would be wise to use 16 inches on center.

The stud chosen was 400S125-54. Steel stud nomenclature has specific meaning. The 400 tells us it's a 4-inch deep stud, the S indicates it's a stud, the 125 means it has a flange width of $1^1/_4$ inches and the 54 is the mil thickness of the steel.

Sound Control

Now we need to determine what the partition requires in terms of sound performance. The single number system that is used to determine sound attenuation (reduction) in a partition is called STC (Sound Transmission Classification). The higher the number, the better the partition is at reducing the amount of sound that goes through a wall. A 50 STC wall is considered good and a 45 STC marginal.

ASTM E90 (*Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*) determines the STC. This test is considered a two-room method, where the wall that is being evaluated separates two rooms. The rooms are designed so that the only way sound can move from one room to the other is through the wall. Sound pressures are generated in one room at specific frequencies and the pressure is then measured in the other room. The difference is TL (transmission loss) and is attributed to the wall in question. After all of the frequencies are evaluated and plotted, a graphical analysis provides the composite STC.

Like a fire rating, STC is based on a total system. There is no STC value for a single sheet of gypsum board.

Type of Occupancy	Between Room 1	And Room 2	Quiet	Normal
Hospital	Bedroom	Adjacent Bedroom	52	50

Figure 1. Sound transmission classification rating.

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The required STC is sometimes based on local codes. There are also many publications that give advice. The table in Figure 1 suggests that the designer pick a system that gives a 52 STC.

Our example calls for a minimum STC of 52. Many drywall manufacturers offer published tables. In one such table, you will find four layers of 5/8-inch Type X gypsum board (two on each side of the metal stud). Further, it requires a 2-inch sound attenuation blanket in the stud cavity. The minimum stud required is a 1 5/8-inch 25-gauge (158S125-18). The system described attains a 56 STC.

Because the stud required is 16-gauge (54 mil) and tests have shown that there is a loss in performance as the thickness of the steel is increased, the 56 STC is now the minimum acceptable.

Moisture

The topic of moisture control has become an extremely important concern. In design and construction, it is critical to understand that moisture control extends beyond traditional design. For example, the chart in Figure 2 outlines moisture issues as they relate to partition design. It takes into account the products that will be used, the design itself, how the building materials get to the job site and are stored, the construction sequence and finally the required maintenance for long-term performance.

1. **Manufacturing:** It's important that products be manufactured and made available free of mold (not necessarily mold spores, as that would be impossible, but free from blossoming mold).
2. **Design:** Architects and designers should pay close attention to vapor and thermal drives, eliminating the potential for condensation within hidden spaces. Further, redundancy in water intrusion resistance must be included. That includes secondary liquid water barriers, proper flashing and weeps.
3. **Distribution:** Building materials must be delivered to job sites free from mold and protected against water.
4. **Construction:** Water-sensitive materials must be protected during the construction phase. This includes having the exterior envelope in place prior to installation. It also means that temperature and humidity controls should be maintained.
5. **Maintenance:** This is one of the most frequently overlooked areas. Keep a close eye on visible water leaks, as well as those areas where leaks could result. Caulk joints and make sure to control the temperature and humidity within the building at all times.

There are many considerations that need to be analyzed in the area of moisture control. Some key questions we need to answer are:

Will the wall be exposed to temperature and vapor drives?
Or simply, will the relative humidity and temperature be greater on one side of the wall? If the answer is yes, we must design against condensation in the stud cavity. A dew point analysis may cause us to include vapor retarders or vent the stud cavity. To obtain expert advice on this subject, contact a qualified mechanical engineer.

Will the wall have to withstand the direct impingement of water in its liquid state?
The answer may be obvious (as in an exterior wall), but it also may depend on maintenance practices of your client. Will cleaning of the space require constant washing of the wall? If the answer is yes, then the final design should take into account water-resistive finishes and a second line of defense against water intrusion into the stud cavity.

What can be done to minimize the potential for mold growth?
There are three elements that need to be present for mold to grow. They include mold spores, nutrients and water. Because mold spores and nutrients may be found on any surface, the one item that can be controlled is water. The Environmental Protection Agency has stated that the key to mold control is moisture control, as referenced on their Web site (www.epa.gov).

Moisture Challenge	Construction Stage	Moisture Control Strategies
Moisture and mold	Manufacturing	Keep products dry
Moisture intrusion in structure	Design	Create building exteriors with multiple barriers to water intrusion
Moisture exposure during transportation and storage	Distribution	Properly store materials at distribution center and job site
Moisture exposure during construction	Construction	Install building materials when weather protection is in place
Drying building materials	Construction	Maintain ample ventilation and use special drying equipment when needed
Moisture exposure after construction	Maintenance	Stop leaks as they are discovered

Figure 2. Moisture issues related to partition design.

Remember these primary areas for building construction mold control: design, construction and maintenance. There is no single product solution that will eliminate mold. While some products offer mold resistance, given the right environment, mold may grow on them as well. Moisture control is the best defense against mold. Other concerns with moisture are:

- **Delamination**
  Prolonged exposure to moisture will cause delamination of finish materials (paint, plaster and bonded finishes) and possibly delamination of paper from the gypsum panel itself.
- **Ridging**
  Ridging is a phenomenon where the joints between adjacent gypsum panels tend to buckle outside the plane of the finished wall. When originally finished, the wall may have been perfectly flat, but "ridges" later appear along the wall. This is caused primarily by poor environmental conditions during the installation and finishing of the gypsum walls. Gypsum, like all building materials, will expand and contract as the material is exposed to changes in temperature and humidity.
- **Rot**
  Gypsum will degrade in a wet environment. It can take cyclic wetting, but prolonged exposure will cause the material to turn soft.

Moisture control in any construction project, and even for the life of the building, is a major design, inspection and maintenance consideration.

Many manufacturers have opted to use an established ASTM test procedure to determine a product's (not a system's) inherent resistance to mold propagation. This procedure is ASTM D3273 (*Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber*). This procedure is not designed for building materials; it is geared to evaluate coatings. One should be cautioned against using this procedure as the only determinate against mold.

In this test standard method, the material to be tested is applied to a 3- by 4-inch panel, or in our case, the panel is the test specimen. One or more of these panels are suspended over a non-sterile dirt bed that has been inoculated with three specific types of mold spores. The test panels are then kept in an environmental condition of 95 to 98 percent relative humidity and 90 degrees F for four weeks. The samples are visually inspected for mold growth each week.

A single number rating system is used, with a 10 being the best rating against mold growth.

There are some very significant limitations to these tests, among them:

1. The test is designed for interior coatings. The scope of the test itself states that the test should not be used for determining system performance.
2. A 3- by 4-inch sample suspended over dirt does not simulate actual building system conditions.

3. The three chosen mold spores do not necessarily fully represent those found in buildings.
4. The test influences building system performance. As mold develops, it releases mold spores that affect all elements on the original test specimen.
5. The rating is ambiguous. The final number (0-10) cannot be related to time for mold to develop in a given environment.

Returning to the example, our client is concerned about mold in a health facility. Therefore, there are two choices. We can select a moisture- and mold-resistant paper-faced gypsum panel product, which yields an 8 on the ASTM D3273 test. This product scores and snaps identical to standard drywall. The other option is to choose to a gypsum fiber product. This product is a little harder to install, but rates a 10 on ASTM D3273 and offers increased strength and abuse resistance.

Abuse Resistance

The next step in the design process is to look at abuse resistance. Modeled after British Standards, a category system has been developed that allows designers to select systems based on their abuse resistance. It looks at a system's resistance to abrasion/indentation (typically a function of the selected finish material), along with its impact resistance—either concentrated or over a larger surface area—and finally security. Abrasion is destruction of the finish on one side, impact is the destruction of one side of the partition (breach into the cavity) and security is penetration of the entire wall.

Looking at our example and relating to the table shown in Figure 3, we determine the desired category is 2.

This means we can use a primer/surfacer over the moisture- and mold-resistant paper-faced gypsum board, or use the gypsum fiber panel with conventional all purpose joint compound.

Aesthetics

Several years ago, the Gypsum Association (GA) and Association of the Wall and Ceiling Industries International (AWCI) published a document that helps manage expectations of finished gypsum wallboard systems. Further, they suggested which level to specify for a desired finish material. This can now be found in ASTM C840 (*Standard Specification for Application and Finishing of Gypsum Board*) and Gypsum Association publication GA-214 (*Recommended Levels of Gypsum Board Finish*). Figure 4 provides suggested levels for desired results.

PERFORMANCE TYPES

Level	Description	Abrasion	Indentation	Hard-Body Impact	Soft-Body Impact
Category 1 Light duty	Improved resistance to incidental surface and impact damage from people and objects	15 cycles	0.15 in.	30 ft.-lbs.	120 ft.-lbs.
Category 2 Moderate duty	Moderate resistance to incidental surface and impact damage from people and objects	30 cycles	0.13 in.	40 ft.-lbs.	180 ft.-lbs.
Category 3 Heavy duty	Resistance to heavy surface and impact abuse from people and objects	100 cycles	0.10 in.	80 ft.-lbs.	210 ft.-lbs.
Category 4 Extreme duty	Resistance to extreme levels of surface and impact damage from hard objects	500 cycles	0.08 in.	110 ft.-lbs.	300 ft.-lbs.
Category 5 Security	For areas requiring forced-entry and ballistic resistance	1,000 cycles	N/A	N/A	N/A

Figure 3. Abuse-resistance categories.



Building professionals must consider various design parameters to achieve the best solution to a problem

Level one is a single coat of joint compound and joint reinforcing tape. It may not look finished, but it is acceptable in hidden spaces.

If the desired finish is ceramic tile, then specify a Level 2 finish. This allows for two coats of joint compound and paper reinforcing tape.

If we want to use a heavy texture finish or heavy wall covering, we should specify Level 3. This allows for two coats of joint compound over the initial coat and joint tape.

Level 5 is for critical lighting conditions. This is defined as any surface where the lighting is such that it will accentuate any surface blemish. This typically calls for "skim coating" the entire surface with joint compound. An alternative would be specifying a veneer plaster, thereby increasing abrasion resistance.

Level 1 .....Attics, hidden spaces
Level 2 .....Substrates for tile
Level 3 .....Heavy textures or wall coverings
Level 4 .....Flat paints or light textures
Level 5 .....Critical light conditions

Figure 4. Gypsum wallboard finish levels.

Some new products have recently been released that combine a Level 5 finish with a priming application. This is accomplished with a spray application of a specially formulated primer/surfacer to increase abrasion resistance.

For this example, we have decided on a Level 4 finish. This requires three coats of joint compound over the initial coat and tape, plus a primer prior to final decoration.

As an alternate, use the spray-applied primer/surfacer. This will achieve a Level 5 finish, eliminate the need for a primer and increase abrasion resistance.

Design Solution

Based on our examples, here is the final design solution:

A double layer of a moisture- and mold-resistant enhanced paper-faced gypsum panel or gypsum fiber panel that is 5/8-inch thick. The stud should be a 4-inch-deep, non-load-bearing stud 54 mils thick (16 gauge). Following the requirements based on limiting height tables, we select 24 inches on center. However, we have decided to use 16 inches on center for increased abuse resistance.

To obtain the sound rating, we have placed a 2-inch sound attenuation fire blanket in the stud cavity. We can finish the joints with a standard ready-mixed joint compound. As an alternative, we added a primer/surfacer. This not only gives us added abrasion resistance, but also achieves a Level 5 (the highest) finish. ■

Click for Additional Required Reading

As part of this CES learning activity, you are required to read some additional material. Some of the test questions below will relate to the additional reading material. Go to *archrecord.construction.com/resources/conteduc/* to access the material online. To obtain a faxed or emailed copy, call (800) USG-4YOU or email usg4you@usg.com.

LEARNING OBJECTIVES

- *Analyze key design considerations for partitions*
- *Compare product attributes that affect partition designs*
- *Know six primary factors to consider in designing partitions*

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 232. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—*archrecord.construction.com*—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

Q: 1. Fire endurance performance and ratings are based on:

A: a. The partition system as a whole
b. Total ratings of individual products

Q: 2. When calculating deflection, if you take a 12-foot high partition and limit it to L/240, you are not allowing the wall to move _____ inches at mid-span.

A: a. .05
b. .50
c. .60

Q: 3. End reaction shear is a:

A: a. Function of the relative stiffness of the system
b. Build-up of stress where the stud terminates into the runner
c. Measure of the stud's capacity to handle the bending stresses within the flanges of the stud

Q: 4. For drywall, a deflection limit of which is recommended:

A: a. L/120
b. L/240
c. L/360

Q: 5. If abuse resistance is a concern, spacing of studs should be:

A: a. 16 inches on center
b. 20 inches on center
c. 24 inches on center

Q: 6. With regards to STC (Sound Transmission Classification), a 50 STC wall is considered better than a 45 STC wall.

A: a. True
b. False

Q: 7. A partition's STC rating is based on:

A: a. The individual STC value for each sheet of gypsum board
b. The total components of the system

Q: 8. Of the three elements that need to be present for mold to grow, which can be most easily controlled?

A: a. Spores
b. Nutrients
c. Water

Q: 9. Ridging is the:

A: a. Delamination of the finished materials
b. Rotting of the gypsum minerals in the material
c. Buckling of the joints between panels

Q: 10. Based on the hospital example used in this section, the design solution chosen for partitions was:

A: a. 5/8-inch-thick Type X gypsum board, 4-inch deep stud 54 mils thick, 16 inches on center, with a 2-inch sound attenuation fire blanket and a Level 5 finish
b. 5/8-inch-thick Type X gypsum board, 4-inch deep stud 54 mils thick, 24 inches on center, with a 2-inch sound attenuation fire blanket and a Level 5 finish
c. 5/8-inch-thick Type X gypsum board, 4-inch deep stud 54 mils thick, 16 inches on center, with a 2-inch sound attenuation fire blanket and a Level 1 finish.

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USG Corporation is a Fortune 500 company with subsidiaries that are market leaders in their key product groups: gypsum wallboard, joint compound and related gypsum products; cement board; gypsum fiber panels; ceiling panels and grid; and building products distribution.

United States Gypsum Company, a subsidiary of USG Corporation, manufactures SHEETROCK® Brand Gypsum Panels, the leading and best-known brand of drywall in the United States, as well as FIBEROCK® Brand Gypsum Fiber Panels and a variety of plaster and veneer plaster products. U.S. Gypsum's SHEETROCK™ Brand Paper Faced Metal Drywall Bead effectively minimizes drywall corner edge cracking resulting from structural movement and expansion and contraction. The company also offers SHEETROCK Brand control joints for use in drywall and plaster partitions, and RC-1 resilient channels for use in drywall partitions.

USG Interiors, another subsidiary of USG Corporation, is a leading manufacturer of acoustical ceiling panels and suspension systems.

For technical advice relating to partition systems, contact USG at P.O. Box 806278, Chicago, IL 60680-4124, call USG's Customer Service Department at 800-USG-4YOU or visit the company's Web site at www.usg.com.



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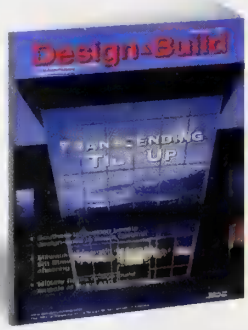
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Residential

Home is where the office is: Four families discover the joys of live/work residences

BRIEFS

Dodge predicts housing starts Single-family home sales are expected to decline 3 percent overall for the year 2003, as mortgage rates start to rise. Ironically, as the economy begins to pull out of its long droop, sales of single-family houses eased to 1.215 million units in 2003 from 1.255 million units in 2002.

Young students show talent at competitions to design houses All 96 second-year students at the New Jersey School of Architecture at New Jersey Institute of Technology, Newark, participated in a design competition for a beach house and an urban penthouse. Notable architects Winka Dubbledam, Gisue Hariri, and Henry Smith-Miller, among others, deliberated on May 12, selecting winners who received a total of $20,000 in prizes, donated by sponsor Hunter-Douglas. Meanwhile, in Boston, a similar exercise was underway. The Lyceum Fellowship, in its 18th year, held a themed design competition entitled "Reinventing the House on Wheels." Carol Burns, who wrote the program, was joined on the jury by Allison Arieff, Jennifer Siegal, and others, who selected winners on April 26. Cash prizes of $17,000 were awarded for educational travel. With these competitions, a new generation of architects begins to get smart about distinctly different challenges in housing.

Stores experiment with off-the-shelf houses On behalf of his client Target, Michael Graves is designing a house for a pair of newlyweds as a promotion for the company's Club Wedd bridal registry. A series of prefab pavilion home additions, priced from $8,000 to $30,000, also will be available (see photo, page 92). If successful, Target may proceed with more affordable prefab Graves houses. Meantime, across the Atlantic, the U.K.'s leading retailer, Marks and Spencer, has hired John Pawson to design both furnishings and a full-size house, to be featured in its new "Lifestore," to open in Gateshead next February. Customers can purchase the house and have it built at the location of their choice.

Lebanese billionaire plans to build 103,667-square-foot house Rafik Hariri, one of the world's richest men, filed an application this spring for a permit to build a single-family residence in Northwest Washington, D.C. While it's not the largest house in the world—that would be a sprawling palace owned by the Sultan of Brunei, at 2.1 million square feet with 257 bathrooms (per the *Guinness Book of World Records*)—nor for that matter the biggest house in the U.S.—which is Biltmore, the 19th-century Vanderbilt mansion in Asheville, N.C., at about 170,000 square feet—nevertheless, its size puts the basic MacMansion to shame.

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Forget the lap-pool, the workout room, the wine cellar, or the home theater. The hot new amenity for homes of today is the office. Live/work residences epitomize both our country's work ethic and, since the advent of the Internet, our increasing reliance on e-communication. According to a recent survey by the National Association of Home Builders, more than half the people in the home-buying market want to live and work at home.

Herein we find four families doing just that in unique ways, and in utterly diverse environments. While Kevin MacCarthy designs and answers e-mail from his hilltop office in his Los Angeles home, gazing out at the panorama of Hollywood, Mark Wedell photographs furniture in his home studio in the woods of Massachusetts. The Manns' art studios provide stunning distant views from two work spaces, and the Aligs' lake retreat doubles as an laboratory for creative art. Ho hum. Somehow this just doesn't sound like work to me. *Jane F. Kolleeny*



Fernau and Hartman's **Mann Residence** rests atop a hill with commanding views and defining courtyards

By Lisa Findley

The term *live/work* is usually associated with lofts in urban settings. However, the idea that one can live and work in the same place is compelling for those who live in rural areas, as well. When the Manns approached Fernau and Hartman to design a new house for them 2 hours north of San Francisco, they wanted space to work as well as live with their teenage son. They were awarded with a house that exceeded their expectations.

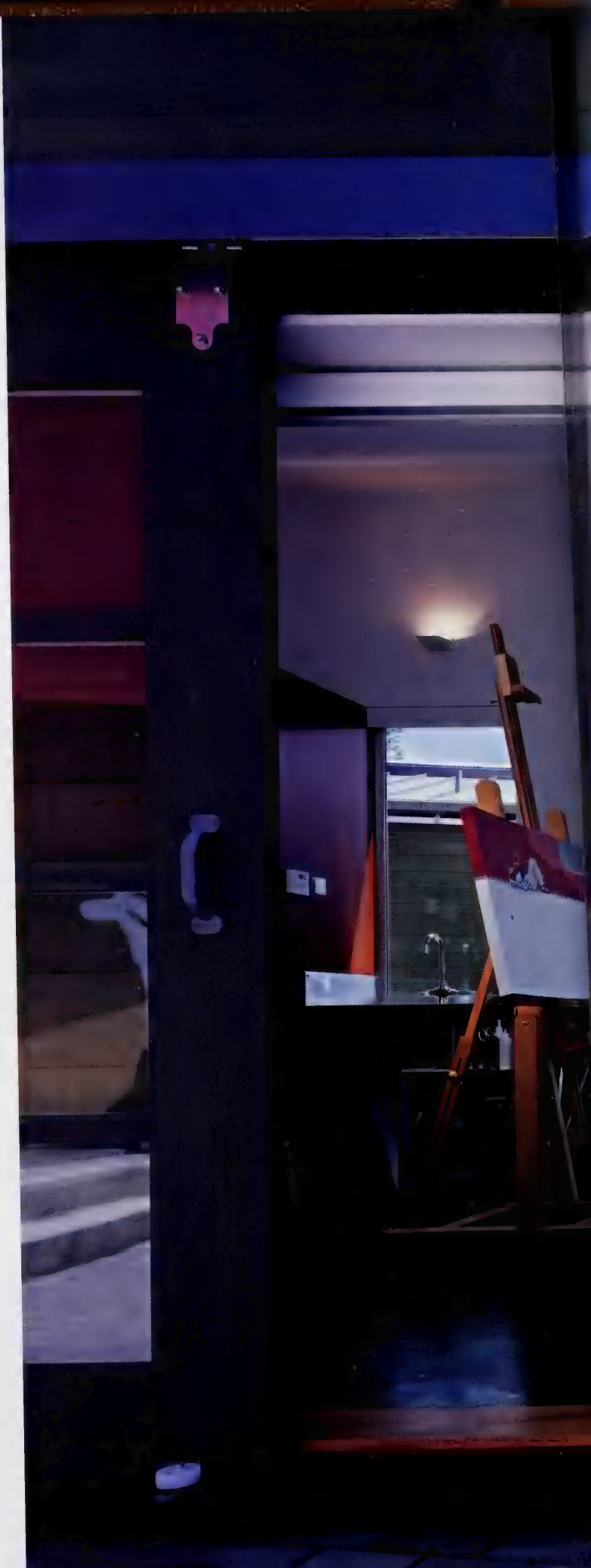
Fernau and Hartman's Von Stein House [RECORD, April 1994, page 86] was a key factor in the Mann's selection of architects. The firm is known for its sensitive treatment of houses carefully tuned to topography, views, and the landscape. The architects find small variations in rural sites and skillfully use them to elicit a delightful range of experiences within a single home. Sited at the top of a knoll, the house features both stunning views and a sumptuous landscape setting, but topography was all but eliminated when the developer scraped the knoll flat before sale. Building took place on an artificial plateau: "We thought of the site as an Acropolis," says Fernau. "This required a different strategy for us," Hartman agreed.

With topography removed, what differentiated one part of the site from another was orientation to the sun, views, the placement of the access road, and a few trees that survived at the edge of the building perimeter. The views are breathtaking: To the west, layers of ridges stack up to form the coastal range, while to the east, the steep oak-covered foothills give way to rolling vineyards. To the north and south, other wooded knolls of the same ridge snake away.

Fernau and Hartman proceeded with the bold strategy of using the entire plateau as the site for the house. The modest residence and its

Contributing editor Lisa Findley practices architecture in Oakland and teaches at the California College of Arts and Crafts. She is currently writing a book, Constructing Culture: Architecture, Memory, Politics, and Hope.

Project: *Mann Residence*
Location: *Sonoma County, Calif.*
Owner: *Frederic and Kitty Mann*
Architect: *Fernau and Hartman Architects—Richard Fernau, Laura Hartman, partners in charge; Jeff Day, Randy Hellstern, Aaron Thornton, project architects; Alexis Masnik, team*
Landscape architect: *Bauer Associates*
Lighting: *Peters & Myer*
Structural: *The Hartwell Group*
General contractor: *Jeff F. Nimmo*
Pool contractor: *Jess Janssen*





Two work spaces double as guest rooms and can be entered from a broad porch at the bend of one of the buildings.

outbuildings are broken into parts and used, along with a winding courtyard and landscape elements, to create a series of indoor and outdoor rooms. Each of these rooms contains a unique composition of light, temperature, enclosure, and view tied to its function. An eastern porch is perfect for cool spring mornings. Breezes funneling through the courtyard make it a cool retreat on summer afternoons. The living room provides a fireplace-lit retreat from winter storms.

The site is organized by the straight line of a decomposed granite walkway that connects a pool and observation platform at the southern extreme, crossing the carport to the house at the northern end. A pergola serves as a unifying element for these two sides of the site. The straightness of the north-south axis ends at the kitchen. From here the private courtyard continues in a zigzag path. This path is defined by two long buildings,

JUST AS THE VIEWS ARE CONTROLLED IN THE COURTYARD, THEY ARE CAPTURED AND FRAMED IN THE BUILDINGS.

each with a bend at midpoint. One building contains the main functions of the house—living, dining, and kitchen on the main floor, with bedrooms above. The other consists of two work spaces that double as guest rooms and are entered from a broad porch at the bend. The courtyard ends in a small manicured lawn that opens out to the north. Here, the closely clipped grass, as foreign to the site as pavers or decomposed granite, is another built surface distinct from the wild landscape.

The courtyard recalls the streets of an Italian hill town and defies its usual definition. Instead of a singular space with the rooms of the house opening onto it, it is a long winding space of varying width with rooms that are quite closed to it. This enclosed quality makes the few viewing places in the courtyard special and increases the sense of release when emerging onto the northern lawn.





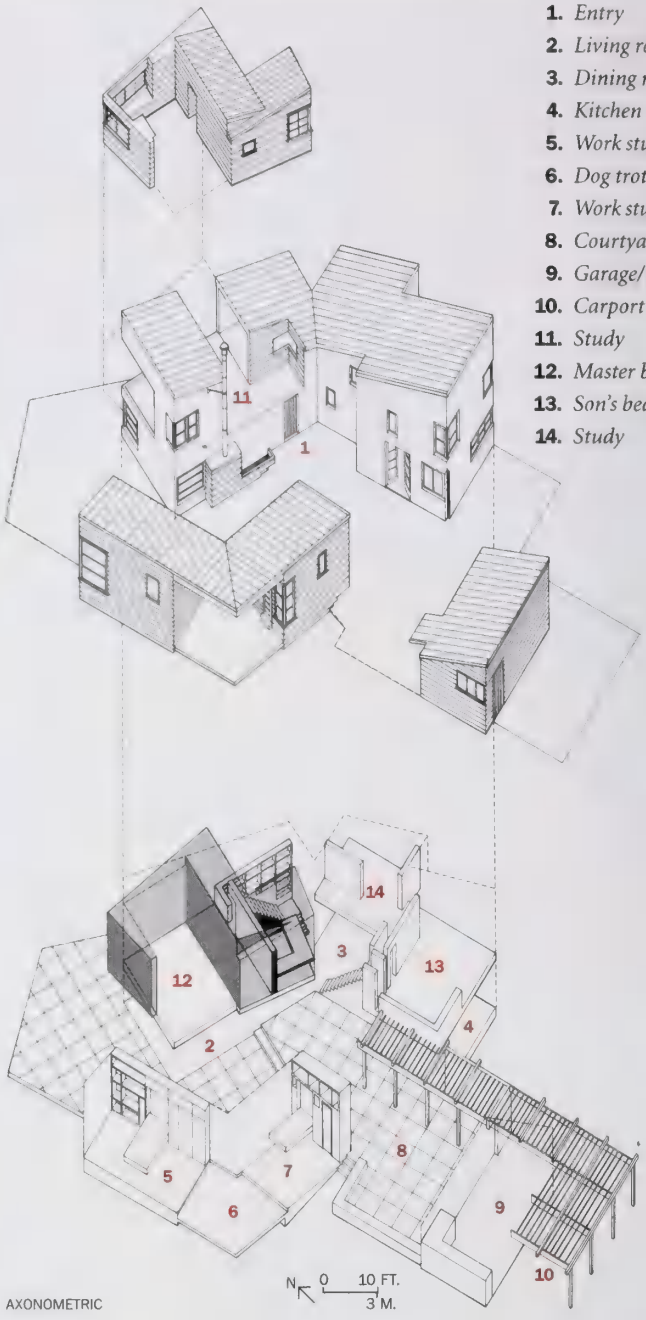
A pergola creates a place of relaxation and shade within the courtyard surrounding the house (below). The meandering courtyard defines a series of indoor and outdoor rooms (middle right).





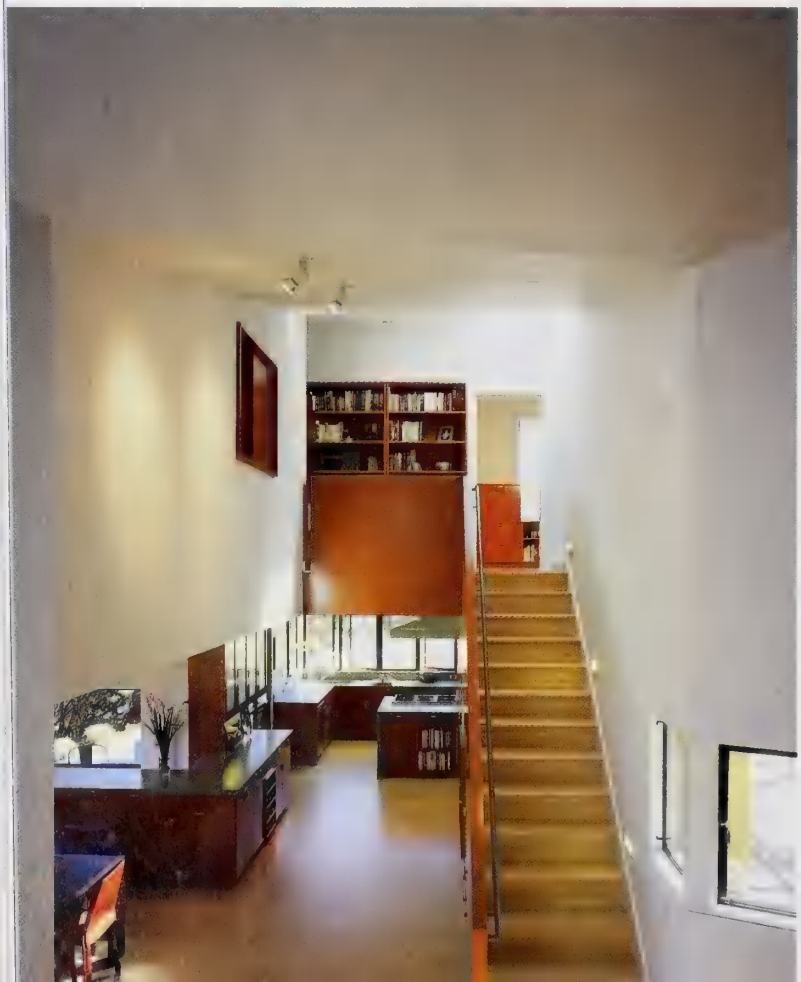
Sited at the top of a knoll, the house features both stunning views and a sumptuous landscape setting (this page and opposite, top).



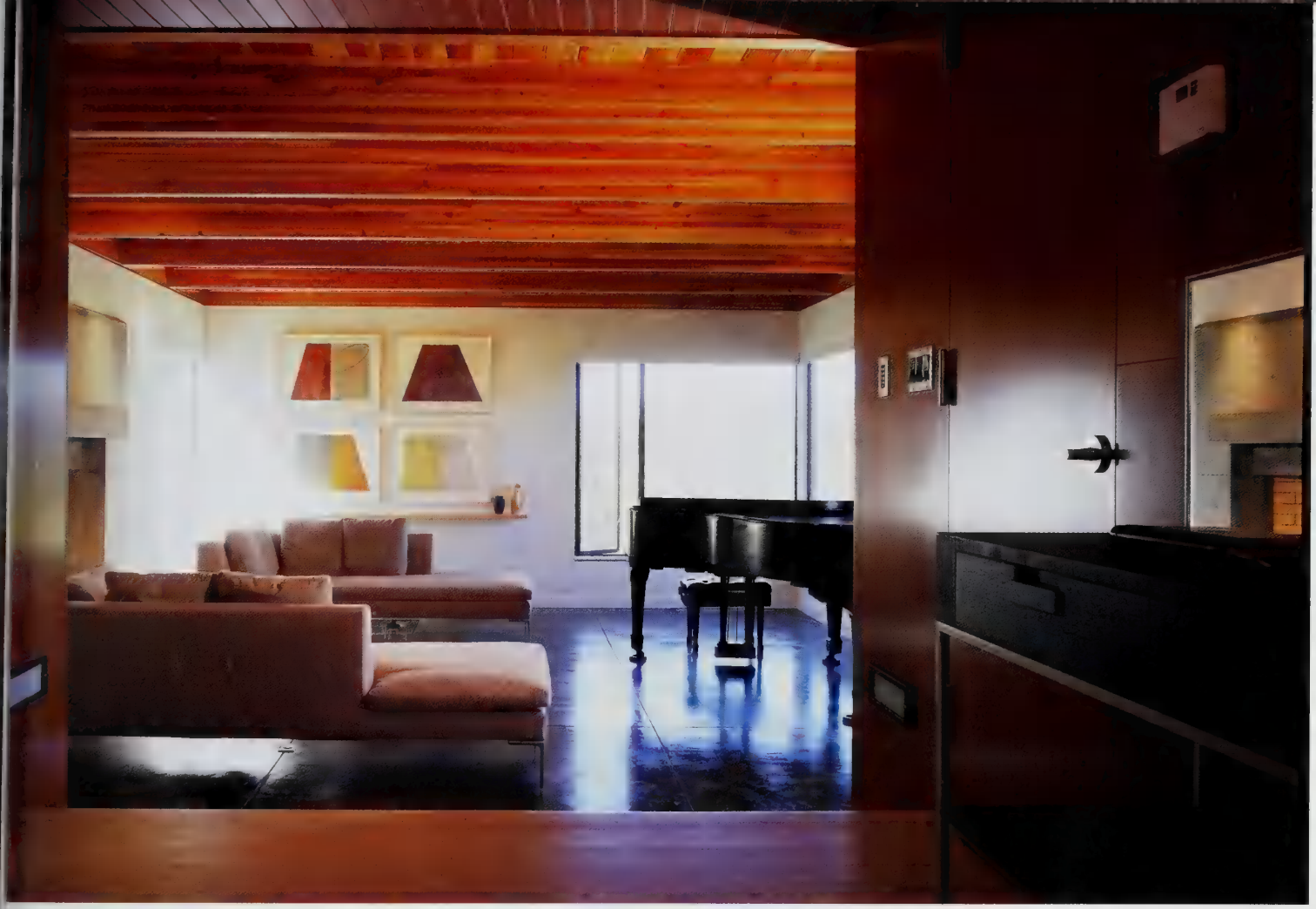


1. *Entry*
2. *Living room*
3. *Dining room*
4. *Kitchen*
5. *Work studio/gue*
6. *Dog trot*
7. *Work studio/gue*
8. *Courtyard*
9. *Garage/laundry*
10. *Carport*
11. *Study*
12. *Master bedroom*
13. *Son's bedroom*
14. *Study*

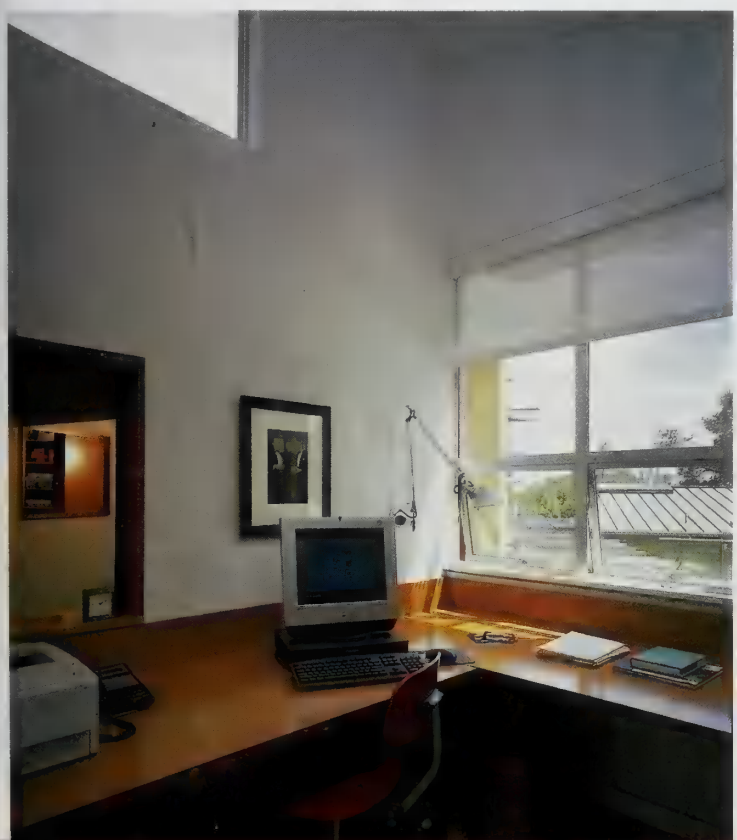
AXONOMETRIC







Each space has a particular character defined by the degree of enclosure, solar orientation, and view. The size and height of windows is fine-tuned to the viewer, whether standing or sitting. Some rooms provide near and far vistas.



Just as the views of the vast landscape are controlled in the courtyard, they are consciously captured and framed within the buildings. Each well-detailed space has a particular character defined by its degree of enclosure, solar orientation, and distinctive view. The size and height of windows are fine-tuned to the viewer, whether standing or sitting. Some places have near views, others distant, some have both. Every major space has a large window that wraps around a corner, setting up dynamic landscape views that break up the rectilinear feeling of the room.

The first floor of the main building uses diagonal views to connect spaces vertically, as well. A double-height volume at the bend in the building serves as both entry and stair hall. There are two flights of stairs to the upper story, one leading to the master suite, another to the teenage son's hideout. While the exterior surfaces and massing of the buildings use the simple, stripped-down vernacular palette Fernau and Hartman have perfected, the interior is Modernist in its open spaces, built-in storage, and cleanly detailed elegant finishes.This ideal place to both live and work features a generous collection of indoor and outdoor areas that invite habitation at different times of the day. ■

Sources

Skylights: *Wasco Products*
Flooring: *Mintec/Bamtex Bamboo or Plyboo*
Locksets: *Baldwin*
Stains/paints: *ICI Dulux; Benjamin Moore; Cabots*
Floor/wall tile: *Dal-Tile*
Metal roofing: *BHP Steel Building Products*
Aluminum roofing: *Bonelli Enterprises*

For more information about this project, go to Projects at **www.architecturalrecord.com**.



Sited at the edge of a meadow, around an ancient sugar maple (above), the house has three sections—shown here are the detached garage/studio and main living area with children's bedrooms and work study upstairs (below).

Betsy Williams and the Aligs experiment with country elegance at the lakeshore **Onominese Retreat**

By Kathryn Bishop Eckert

In a collaborative creative experiment with her Indianapolis clients—Cornelius Alig, an architect-developer, and Dorothy Stites Alig, a textile conservator–artist—Betsy Williams, who holds an M.Arch. from Harvard and teaches studio at the University of Michigan, devised a simple design for a vacation house. Onominese Retreat is a personal expression of casual aesthetics set amid a rural lakeshore landscape in the Leelanau Peninsula of northwestern Lower Michigan.

For 10 summers the Aligs rented cottages in Leland. An exhaustive search for their vacation house site was eventually rewarded. Their preference for lakeshore, "where the kids could go down to the beach," over village, "where the kids could walk to the candy store," says Cornelius, brought them to Onominese. In 1999, on a private trail near the site of an historic Ottawa village, the family bought a lot overlooking the Manitou Shipping Passage of Lake Michigan and the North Manitou and South Fox islands.

The four-tiered, 130-foot-wide site rises 200 feet above Lake Michigan. From the edge of a meadow, the land descends first to a cedar and birch plateau and then to the sandy beach. Williams ingeniously sited the house parallel to the lake but below the road and meadow, worked around an ancient sugar maple, and joined an old path that winds down to the shore.

Departing from the current trend in the Leelanau of basing second homes on northwestern log lodges and white-trimmed, gray-shingled Nantucket cottages appointed with central air-conditioning, marbled bathrooms, and gourmet kitchens, Williams and her clients drew inspiration from the county's farm structures and early-20th-century cottages with unfinished interiors.

Three sections appear as a complex: the main living area, with bedrooms for children ages 10 and 13 and work space above; the slightly offset tower that steps down to the path to the beach, with master and guest bedrooms stacked over the basement recreation room; and the detached garage/studio. The 3,000-square-foot plan is arranged so that all sleeping and living areas overlook Lake Michigan to the west. These and the screened porch, deck, loggia, and outdoor shower surround occupants with nature.

The Aligs complemented each other in building the house. Cornelius is interested in structure, massing, and technical issues. Dorothy is comfortable experimenting with materials, textures, and colors. Williams integrated their ideas in design development, finding the

Kathryn Bishop Eckert is an architectural historian and historic preservationist who has studied buildings and cultural landscapes throughout Michigan.

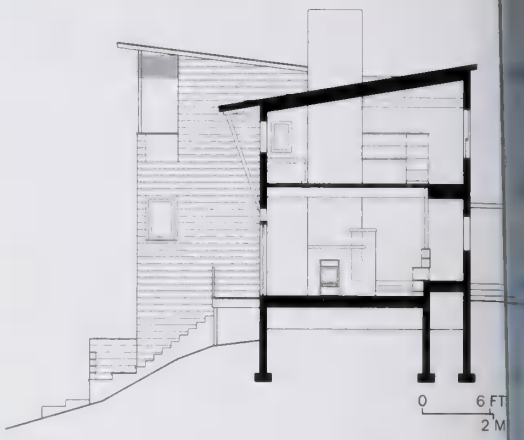
Project: *Onominese Retreat*
Location: *Leelanau Peninsula, Mich.*
Owner: *Cornelius and Dorothy Alig*
Architect: *Betsy Williams, with Cornelius Alig*
Structural engineer: *SDI*
General contractor: *David Webster Construction*





An offset tower comprises the third section of the house and includes bedrooms over the rec room (above). A porch extends the length of the main living room area (below).

1. *Porch*
2. *Kitchen*
3. *Living room*
4. *Deck*
5. *Master bedroom*
6. *Entry*
7. *Laundry*
8. *Garage*
9. *Bedroom*
10. *Study*
11. *Loggia*
12. *Storage*
13. *Studio*



SECTION A-A

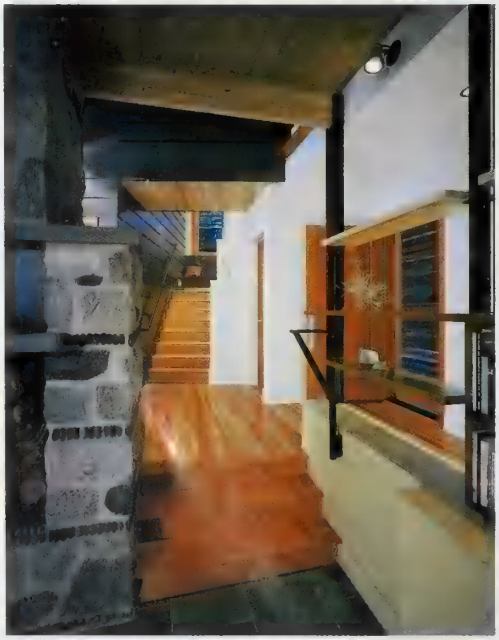
Departing from the local trend of log lodges and gray-shingled Nantucket cottages appointed with modern amenities, Williams and her clients drew inspiration from the county's farm structures and early-20th-century cottages with unfinished interiors.

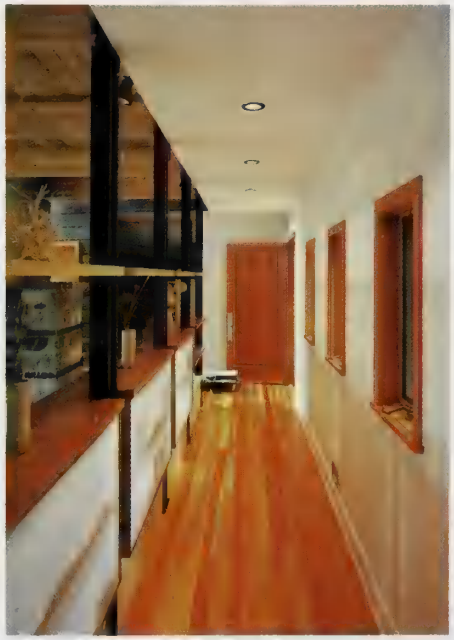


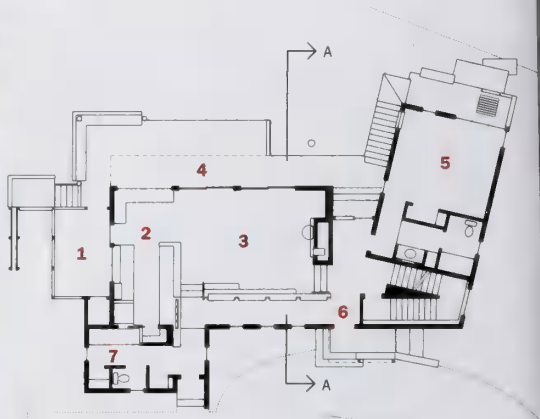


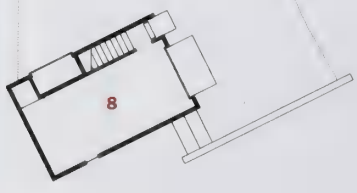


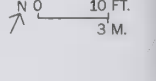
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In her secluded laboratory studio above the garage, Dorothy Alig tests ideas. Ample northern light illuminates her long worktable supported by sawhorses, and a utility sink supplies water for work and cleanup.

collage of disparate approaches a rewarding challenge to work with. "As a framework for the clients' ongoing and future design experiments, the house needed to be conceptually clear but not controlling, inspiring but not overwhelming, resolved but not finite," Williams states.

Williams uses indigenous materials imaginatively. The subtle linear motif of channel rustic cedar siding board becomes a design element. Light and shadow play on the exterior walls, stained dark bluish gray to Dorothy's formula. The walls are pierced by standard double-hung and casement windows—all relatively small to meet Cornelius's energy conservation specifications. The warm sienna of the fir windows and doors echoes in the corncriblike slats that screen the north entry, loggia, and porch. Low-pitched shed roofs cover the house, rising to the west in the main section and to the east in the tower section to form awnings lined with knotty pine over the deck and loggia. The roof lifts to the north over the garage/studio. Cut granite fieldstone laid with mortar spread like butter rises in the retaining wall. Both the channel board and stone are brought inside. Bands of small, lake-washed black stones seated by Dorothy decorate the chimney wall.

In his tinkering, Cornelius devised a single door that swings forward to close the utility room and back to close the lavatory. He boldly hooks nylon sailcloth to cedar posts to shade the deck corner and hangs hammocks from nautical hardware. Stainless-steel cable woven vertically and attached to conductor posts rails the porch. His transoms in the childrens' rooms allow cross breezes with the lakeside windows. Dorothy established the dominant palette for the house of slate gray blue, greenish blue, bottle green, oxblood, rust red, and ocher.

To serve the Aligs' desire for simplicity connected to the spirit of cottage life, Williams omitted closet doors, bathroom built-ins, and kitchen cupboards, but built open shelves and installed many easy-to-sweep linoleum floors. Ordinary plumbing fixtures furnish bathrooms and lavatories. Fabric curtain panels made by Dorothy using cutout synthetic suede conceal closets. A Danish wood stove holds the fire in the living area. There is no air-conditioning, no television, no mail delivery.

Dorothy paints for hours in seclusion, testing ideas about northern Michigan's strong light, ribbons of farmland and orchards, and patterns of rocks and grasses in her laboratory studio above the garage. Ample northern light illuminates her long worktable supported by sawhorses, and a utility sink supplies water for work and cleanup. "The meditative sound of breaking waves, starry nights, and fragrant cedar foster contemplation and creativity," she says of life at Onominese Retreat. ■

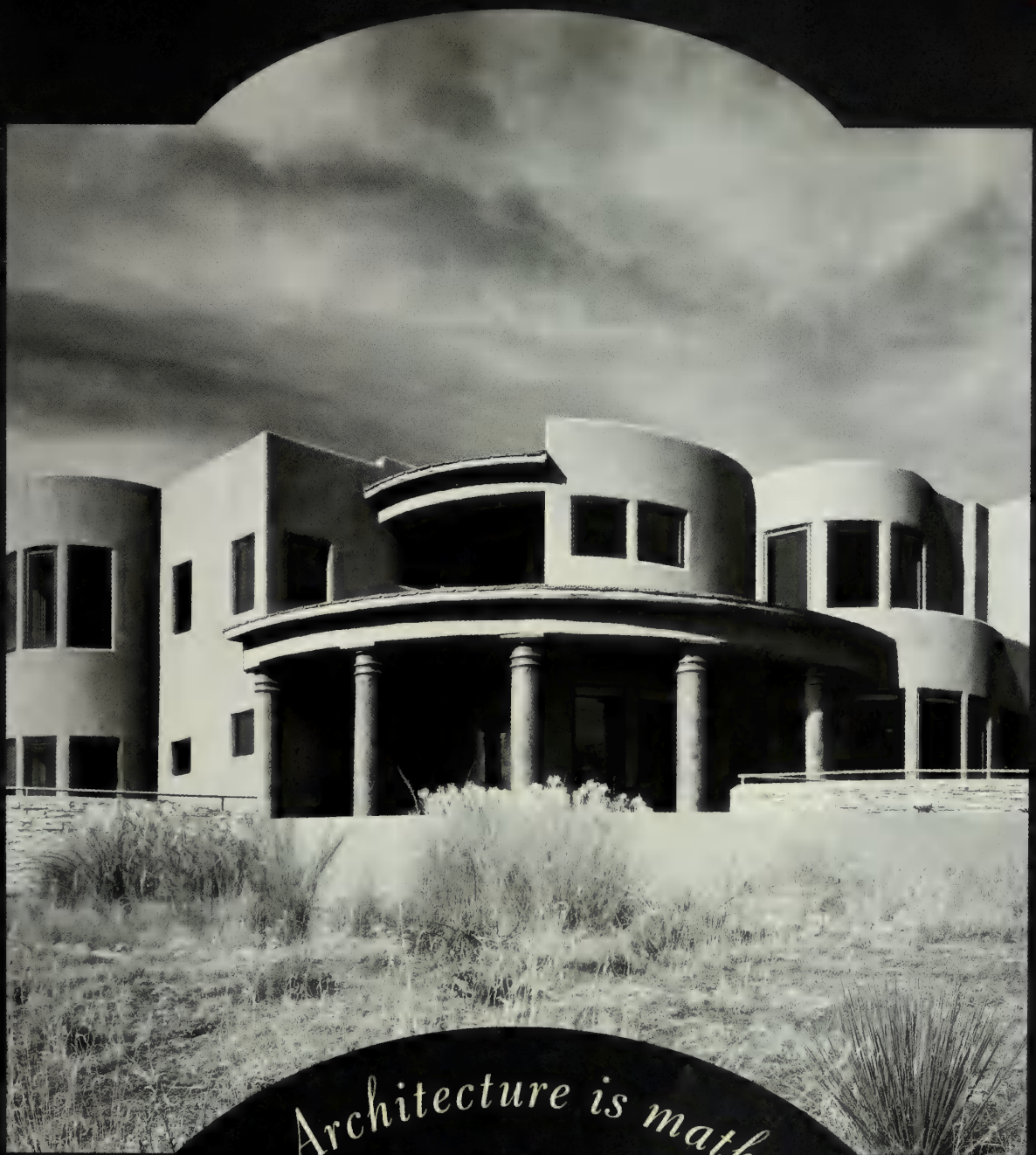
Sources

Windows, entrances, sliding doors: *Kolbe & Kolbe*
Glazing: *LUMAsite*
Hardware pulls: *Hoppe*
Cabinet and custom woodwork: *David Webster Construction*
Flooring: *Armstrong*
Lighting: *Artemide; Juno; Louis Poulsen*
Paints: *Cabot; Benjamin Moore*

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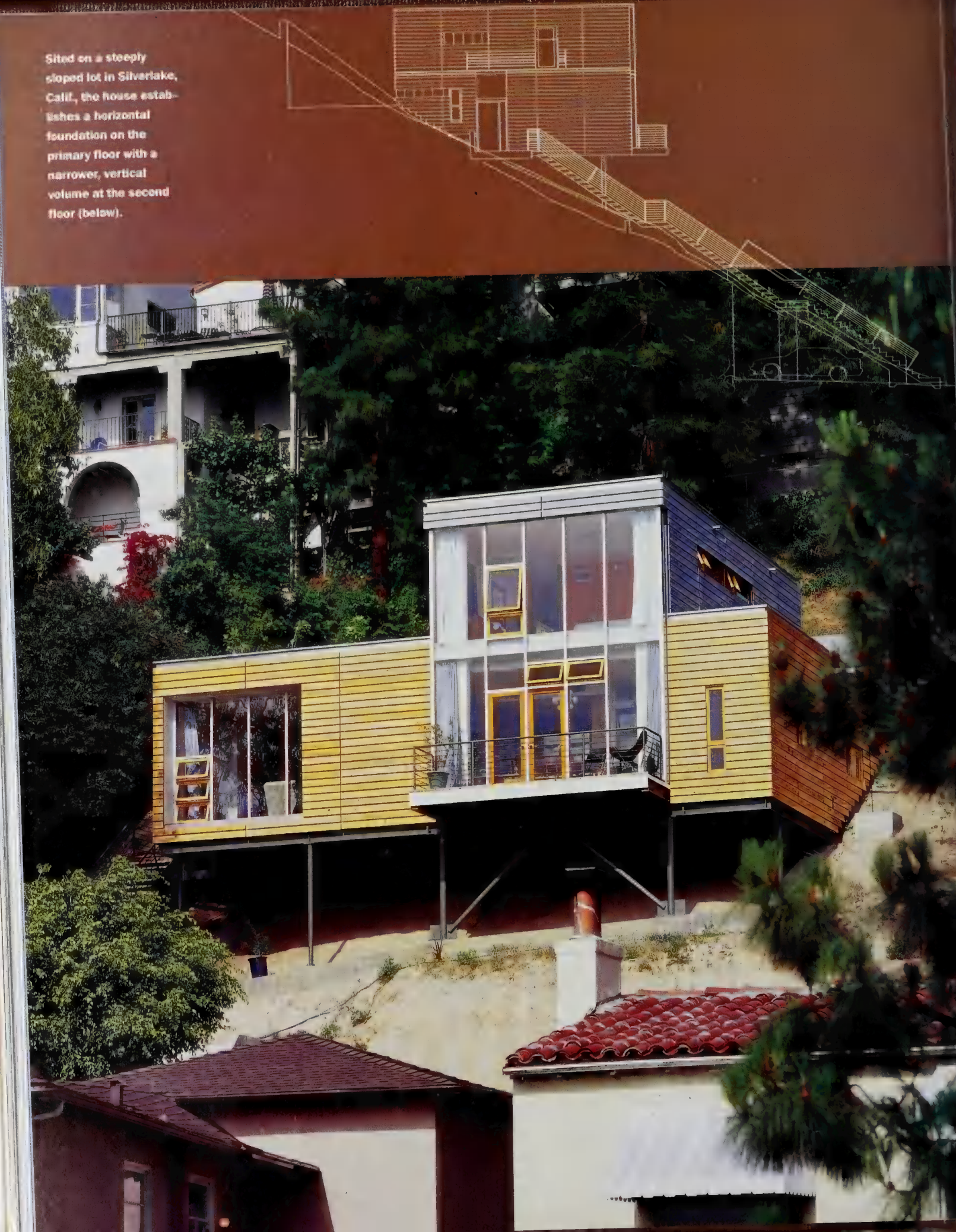
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Sited on a steeply sloped lot in Silverlake, Calif., the house establishes a horizontal foundation on the primary floor with a narrower, vertical volume at the second floor (below).



Balanced on a hillside, rooted in the ground, Lorcan O'Herlihy's **Lexton MacCarthy home** opens to the sky

By Allison Milionis

There are approximately 80 steps from the street to the home/office of Lauren Lexton and Kevin MacCarthy. Though a tough climb, the payoff is a spectacular view and the thrill of being perched on a precipitous slope. The site is not unusual in this Silverlake neighborhood, an area of Los Angeles with a history of adventurous architecture on atypical sites. Here, houses by R.M. Schindler and Richard Neutra, among other midcentury trailblazers, dot the steep hillsides, inspiring generations of architects and their daring clients to create something more interesting than the traditional saltboxes in the flatlands.

Although architect Lorcan O'Herlihy was born in Ireland and trained in London, and his clients Lexton and MacCarthy are originally from the East Coast, they are the 21st-century versions of those legendary progressives. Sharing the same design sensibilities and a willingness to experiment, the three forged a unique team to make the exceptional happen on a fairly rigid budget. And that was a tall order, considering the exorbitant costs of building on a hillside. In addition, both Lexton and MacCarthy are freelance professionals—Lexton is a documentary filmmaker and MacCarthy a writer, director, and illustrator—which meant they needed individualized work spaces included in the program. A stepped plan would provide more square footage, but the complexity and cost of that endeavor was out of the question. "We decided the innovation would be in the details, not the site," said O'Herlihy.





Accessible from the second story (top), a rooftop deck of AstroTurf and stones offers spectacular views of the Hollywood Hills (right).

The house is comprised of two articulated volumes, which look as though they could lift off of the hill at any moment. Both are clad in wood siding that is floated on the exterior walls, rather than directly attached, to allow for airflow and to enhance the sense of lightness. The upper level is sheathed in boards stained blue in reference to the perpetually blue sky, and the lower-level volumes are lightly varnished to match the surrounding pine trees. Devoid of superfluous details, the natural simplicity of forms and materials is stylistically akin to a European aesthetic, less influenced by the L.A. school. But that makes sense, considering O'Herlihy's European roots and sensibilities and the East Coast roots of Lexton and MacCarthy.

Though only 2,000 square feet, the openness of the plan is deceptive. The primary level is public domain, comprised of a living room, a kitchen, and dining space, guest bathroom and bedroom, and two very different work spaces. There are few walls, and most of those are operable and/or translucent. The plan is a composition of flexible spaces, uniquely separate but complementary as a whole. The absence of absolute definition creates a less restrictive architecture that allows for several different plans depending on the needs, or moods, of the occupants.

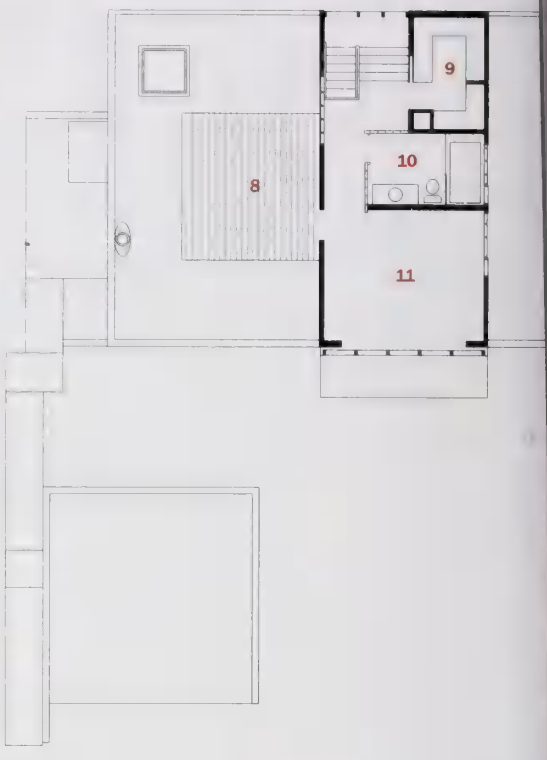
O'Herlihy devised interesting ways to define the studio and office, which can easily be integrated into the larger plan. Adjacent to the front entrance, a billowy silver curtain cordons off MacCarthy's space, which consists of a single desk and rows of bookshelves. Like casual attire, the curtain suggests a more relaxed and open area. When pulled aside, MacCarthy is completely exposed to the main room, but the trade-off is an abundance of natural light and a great Hollywood Hills view. He prefers to do his art here, in the open, but will sometimes go to Lexton's office to write. "Sometimes I need to be more cocooned," said MacCarthy, "and I have to minimize the distractions to write."

Allison Milionis is a Los Angeles–based writer. She contributes to several national and international architecture and design magazines.

Project: *Lexton MacCarthy Residence*
Location: *Silver Lake, Calif.*
Owner: *Kevin MacCarthy and Lauren Lexton*
Architect: *Lorcan O'Herlihy Architects—Lorcan O'Herlihy, principal in charge; Michael Poirier, project manager; Danika Baldwin, Juan Diego Gerscovich, Kevin Tsai, Mariana Boctor, team*
Engineer: *Paul Franceschi Engineers*
Landscape architect: *Chuck Carr*
General contractor: *A+B Construction*

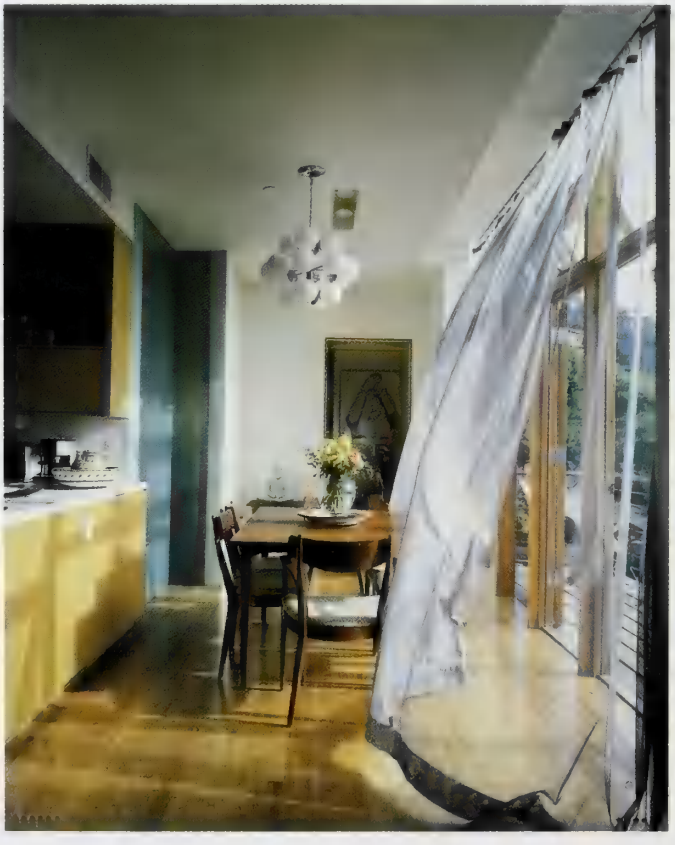


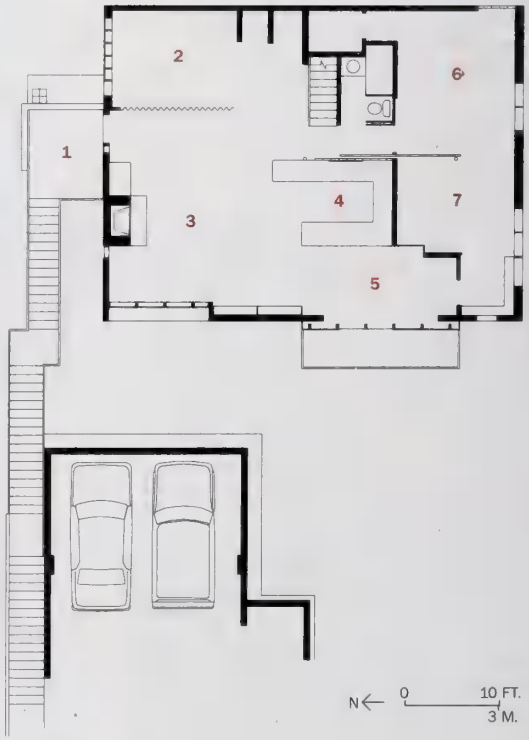
1. *Entry*
2. *Work space*
3. *Living room*
4. *Kitchen*
5. *Dining room*
6. *Guest room*
7. *Work space*
8. *Deck/terrace*
9. *Master closet*
10. *Master bathroom*
11. *Master bedroom*



UPPER LEVEL

MacCarthy's work space is casually separated from the main living room with a billowy curtain. When the curtain is pulled aside, the office is exposed to an abundance of light (above and right).





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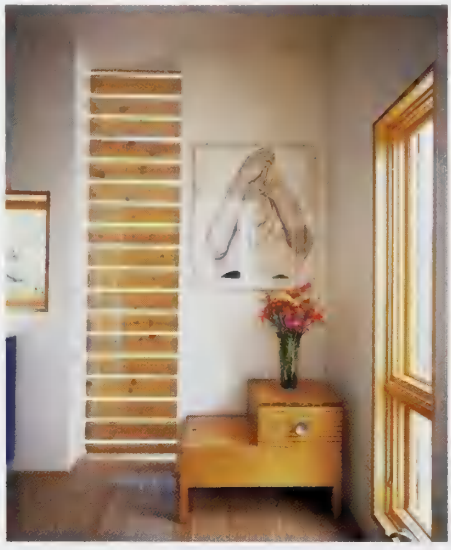
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Lexton's work space gains definition from a translucent sliding wall (above). The primary level of the house, which includes all public areas and a guest room, is flexible and open (left and below).



Lexton's office is semiprivate, receives less light, and is considerably smaller in scale. Located behind the kitchen, her desk and environs seem to be created for quiet contemplation. There are no spectacular views to compete for attention and less opportunity for distractions. But like MacCarthy's space, Lexton's can change with the mere push of a slider. Though not as light and airy as the curtain, the translucent wall still provides the opportunity for adaptation. Left open, the office becomes part of a larger room, which has been designated a guest bedroom.

The 600-square-foot second floor is completely private and provides no space for work. Rarely does anyone but Lexton or MacCarthy enter this zone. Comprised of the master bedroom, bathroom, and access to a roof deck covered with blue AstroTurf and white glass pebbles, this level is the area of rest, the respite from the primary level, where it may be more difficult to leave work in its place. And with no opportunity for architectural shape-shifting, there is nothing to do but take in the Hollywood Hills through the floor-to-ceiling window wall, or from the roof deck. This distinct physical separation of private and working areas is essential to making the psychological transition between task-oriented and leisure mode much easier for the residents. ■

Sources

Exterior cladding: *Mel Brown Construction (masonry and concrete); Marvin Windows, A+B Construction (metal/glass curtain wall)*

Roofing: *Dex-O-Tex*

Wood windows/doors: *Pine by Marvin*

Glass: *Westcrowns; Bristolite Skylights; Solter Plastics (plastic glazing)*

Hardware: *Omnianos (locksets)*

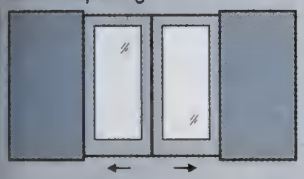
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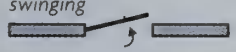
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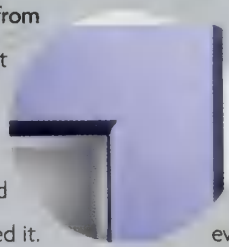


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Mark Hutker and Jon McKee's **Skolos/Wedell Residence** stands in the woods like a Zen oasis





Anodized and copper-painted aluminum siding punctuated with translucent panels characterizes the Zen-like exterior. The house meanders like a snake through the lovely sloped site, commingling with the landscape.



PHOTOGRAPHY: © TOM WEDELL

By Jane F. Kolleeny

Itinerant city dwellers Tom Wedell and Nancy Skolos decided to build a home on a 2-acre sunlit meadow in Canton, Massachusetts, moving from their Boston loft to this bucolic country site. Not your typical rural folk, this husband and wife team of commercial artists love modern design. One neighbor refers to them as the people who live in the Shell Station. Coming from a conservative New Englander, it's not far from the truth. Their "loft landed in the woods," as Skolos calls it, is a reflection of a Minimalist design vernacular that is evident in everything the couple undertake.

A three-pronged team of longtime friends appear to have had little problem collaborating on the design of this project: the artist, interior designer, and resident Tom Wedell; architect Mark Hutker, AIA, with offices on Martha's Vineyard and a strong portfolio of residential design; and Jon McKee, AIA, a founding partner of Symmes Maini & Mckee, a large architectural firm in Cambridge, Massachusetts. The slow, steady pace of country life served as a backdrop for the design of this live/work home that features both graphics and photography studios.

The architects oriented the 3,850-square-foot house with a central north/south axis so that the sun moves through the rooms in the same sequence in which they are occupied. Oriented by topography, view, and privacy, the house's clear geometry was driven by the materials and the simplicity of the program. There are four quadrants—the bedroom, work, living, and outdoor areas—that come off the spine and are defined by two perpendicular cuts.

The exterior materials include anodized and copper-painted aluminum siding, matching the copper of the beech trees and of the iron in the large rocks unearthed during excavation, which stand in a rock garden near the entry. The siding activates the light by transmitting it off its reflective surfaces, and the painted copper is as durable as an automobile finish. The siding is complemented by insulated translucent fiberglass panels. "Prefabricated at the plant, the steel-framed, wind-resistant panels alternate with the siding, acting as mediators between the ambient and outside light," says Hutker. The glowing panels appear like high-tech shoji screens, adding luminosity to the architecture. Like a Japanese teahouse, the garage is fully clothed in the panels and backlit, illuminating the walkway to the main entrance of the house.

Upon entering the long, welcoming hall and client waiting area, one is surprised to encounter the dining room first. This is the one transitional space with a mixed live/work personality—it is used both for private dining as well as for meetings, and it harbors a design library behind cupboarded walls. Indeed, it does not take long to discover that Tom, a not-so-closet neatnick, has found a behind-the-scenes place for just about everything. Nary a book, CD, newspaper, or bag of groceries is within view. The house is like a display case meticulously composed for its audience. Beyond the dining area and behind a movable screen appear the ample offices and photo studio. A client and delivery entrance at the back end of the office further segregates public from private areas. These sleekly designed offices benefit from abundant light.

Project: *Skolos/Wedell Residence*
Location: *Canton, Mass.*
Owner: *Nancy Skolos and Tom Wedell*
Architect: *Mark Hutker and Associates Architects, with Jon McKee, AIA*
Interior designers: *Nancy Skolos and Tom Wedell*
Engineer: *Siegall Associates*
Landscape architect: *James O'Day/Garden Arts*
General contractor: *Brownlow Associates*





Ample office space receives abundant light from outside (above). A high-tech photography studio lies beyond the graphics office (left). A client entrance serves both studio areas, separating business from leisure activities.

1. *Entry*
2. *Library/studio vestibule*
3. *Graphics studio*
4. *Photo studio*
5. *Studio storage*
6. *Mechanical room*
7. *Kitchen*
8. *Dining room*
9. *Living room*
10. *Guest bedroom*
11. *Master bedroom*
12. *Sitting room*
13. *Private entry*
14. *Garage*



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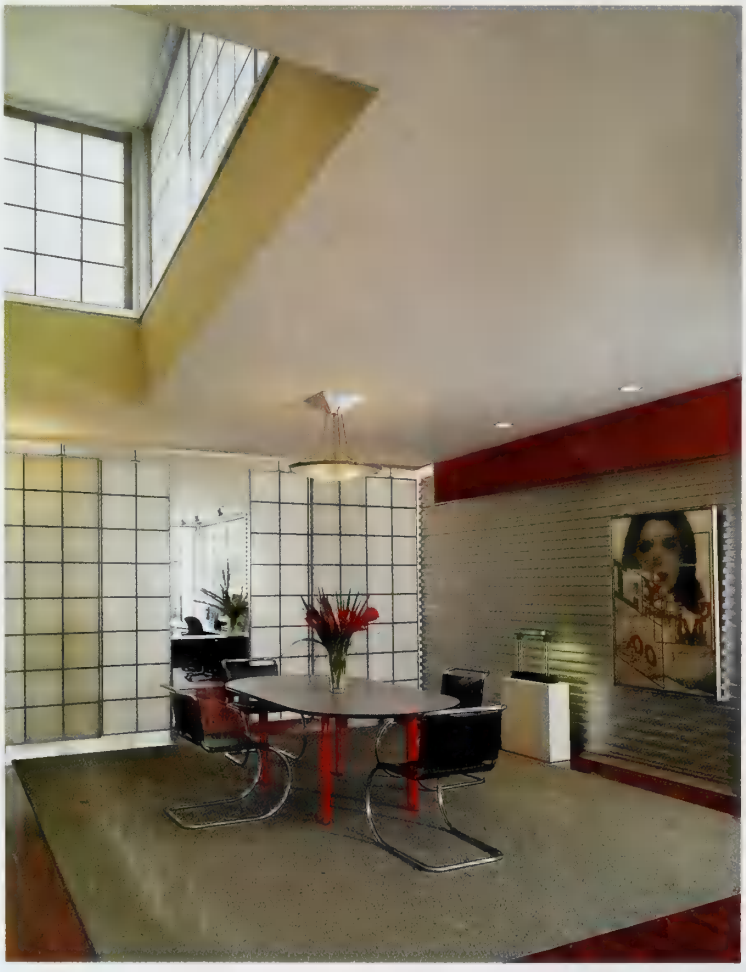
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A combination living room, dining room, and kitchen occupies one quadrant of the house (right). A space comprising a library, studio vestibule, and secondary dining area is just outside the offices, partitioned off by the shoji-screenlike panels (below).



Seen from both outside and inside the house, the panel system serves several purposes. It blocks uninspiring views, so one's attention is directed to the peek-a-boo, full-windowed areas where compositions of garden and sky are staged. This creates a wonderful feeling of being cocooned while exposed to the outdoor realm. Hutker notes, "Open windows release into the landscape, but the translucent panels balance the space to bind you inside." According to Skolos, "The house glows all the time, and the walls snap, crackle, and pop as the temperature warms and cools." McKee adds, "The light constantly changes, making you feel in motion as it moves the tree shadows."

The residents are furniture lovers. "Our personal history began at Cranbrook Academy of Art. Since Cranbrook, we have collected a mix of affordable Postmodern pieces like lighting fixtures by Ron Rezek and Philippe Starck and a carpet with a pattern designed by Zaha Hadid. We enjoy watching the old and new intermingle, and seeing the new eventually become the classic," says Wedell.

The neighbors have found this modern addition to the countryside a little vexing. Wedell tells the story of how one neighbor pulled up in her car, asking about the style of the house before it was actually built. He replied, "It's turn of the century"—he was smart not to mention which century. ■

Sources

Insulated panels: *Kalwall*
Aluminum siding: *Atas*
Cabinet hardware and pulls: *Hafele*
Security: *ADT*
Lighting: *Artemide; Juno; Litolier; Flos; IOS Lighting*
Plumbing: *Porcher; Dornbracht; KWC*
Flooring: *Tuflexis Partus*
Paint: *Benjamin Moore*

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Kitchen & Bath Portfolio

Situated in landscapes ranging from the forests of Washington to the Virginia Beach coastline, these **well-designed kitchens and baths** reflect their surrounding environments and a variety of client tastes—from keeping a **kosher kitchen** to **a passion for airplanes**. *Rita F. Catinella*

A wooden box floats in a house on a ridge in Washington State

When a professional couple and their two young children moved out to 40 acres of Ponderosa Pine forest in eastern Washington State, they turned to Seattle-based Olson Sundberg Kundig Allen Architects to design an ideal home to revolve around their casual lifestyle. An active, outdoor-oriented couple, the clients requested that the home be closely connected to the natural landscape while maintaining an open feeling between rooms to enhance a sense of family. The "fort," a home office that is connected to the main house by means of a footbridge, was recommended by principal designer Tom Kundig, AIA, to keep the couple's business and family lives separate. Built across a ridge, and aptly named the Ridge House, the entire home feels as if it's sitting in the treetops.

Intended to be a functional, tailored room used every day by the family, the Ridge House kitchen allows a 280-degree view into the landscape through the surrounding rooms. Featuring custom mahogany-veneer cabinets, ceilings, and walls, and a Brazilian cherry floor, the room, conceived as a wood box inserted into the larger wood-box structure of the house, connects to the adjacent volume of the living/dining space. In addition to the bird-head drawer pulls, the owner selected striking Brazilian marble countertops that contrast with the wood and glass theme while remaining connected to the natural landscape. A powder room that pokes out of the wall directly across from the kitchen was intentionally designed to echo the feeling of a kitchen cabinet, by way of matching exterior mahogany paneling.

While the kitchen is open to the home's living/dining space, the architect did not aim for a seamless connection but rather a distinct sense of separation between the two areas. According to Kundig, the final effect of the design did just that, giving the illusion that the kitchen is a boat cabin floating within the home. *R.F.C.*

Architect: *Olson Sundberg Kundig Allen Architects—Tom Kundig, AIA, project designer/principal; Ellen Cecil, Steven Rainville, project managers*
General contractor: *Gutman Construction*
Sources: *JE Cabinets (custom cabinets); Thermador (range); Vent-A-Hood (range hood interior); Brazilian blue marble (counters)*





Blue and white Brazilian marble brings an element of earth-bound sky within the Ridge House's wood-clad kitchen. The room's rich materials were chosen for their connection to the surrounding forest landscape.

Kitchen & Bath Portfolio





Architect David Coleman, AIA, uses materials that attempt sustainability and convey the influence of the surrounding landscape. In both the Chee residence (top left and right) and the Buchter residence (bottom), the kitchen is an open space that allows for interaction with the outdoors.

A pair of kitchens reflect their inspiring locations through materials

In designing the Buchter residence, a vacation retreat for two sisters and their spouses, architect David Coleman, AIA, drew inspiration from late-19th-century national park lodges and platform tents. The resulting house plays with a "summer camp" theme while connecting the space to the environment through its design and materials.

The interior of the house is influenced by its location on Orcas Island, Washington, and more specifically, on a rock outcropping there. While concrete, used throughout the house, suggests the heaviness of the rock, custom-made fir cabinetry references the surrounding forest. Barn doors, custom made of fir and blackened steel, can be closed to separate the space and create privacy.

Like the Buchter kitchen, the kitchen in the Chee house incorporates the themes present throughout the rest of the interior. The clients wanted to preserve the exterior of the house, a 1910s Colonial, but chose to gut the old interior in favor of a modern one.

Large pivot windows and rolling doors blur the lines between the inside and out, creating one space. However, to separate the kitchen and dining-room areas, the architect raised the kitchen floor so that it appears to be floating above the main floor.

The use of fossilized French limestone and plantation mahogany, in particular, give a warm, elemental quality to the space and soften the building's strong, modern lines. Used throughout, the streamlined materials further the home's dialectic between the natural and man-made, old and modern. *Diana Lind*

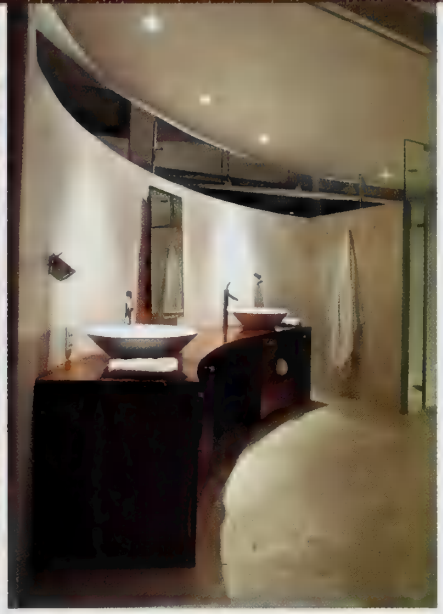
Architect: *David Coleman Architecture*

Sources: *Buchter residence—Dog Paw Design (countertops, concrete); Baldwin (hardware); L.M. Scofield (concrete floors); Mutual Materials (concrete-block island); Tech Lighting, Lightolier (lighting); Two Rivers Window (windows); Sub-Zero (refrigerator); Jennaire (range); Gaggenau (dishwasher); Sharp (microwave); Dornbracht (plumbing fixtures)*

Chee residence—Baldwin (hardware); Vermont Structural Slate (Norwegian quartzite); Eureka Lighting, Hydrel, Artemide (lighting); Quantum (pivot windows, rolling doors); Sub-Zero (refrigerator); Viking (cooktop, downdraft); Gaggenau (oven); Miele (dishwasher); Sharp (microwave); Dornbracht (plumbing fixtures)









Technology combines with vanguard design in a Mexico City home

When Mexico City–based Dangil Architects designed a home for a family of four, the clients, an architect and an interior designer, knew what they wanted. Lovers of technology and vanguard design, the couple requested that the firm focus on functionality, Modernism, and open spaces. Because the home is located in the capital's Jardines del Pedregal, focusing on the view was vital, as well.

For the kitchen, the client requested a space that could be either isolated from or integrated into the dining room, depending on the position of a wooden screen: If it is left open, a tabletop *tepanyaki* grill is accessible to diners. The kitchen's materials, including stainless steel, maple wood, and acid-treated marble, harmonize with those throughout the rest of the home.

Located over the home's temperature-controlled central yard is a huge glass dome. Since the bathroom's interior wall crowns the yard, the architects were able to satisfy the client's request to "never miss the great view." The bathroom, graced by a curved outer wall, features both custom and standard elements, such as Philippe Starck basins on a tsalam wood base. *R.F.C.*

Architect: *Dangil Architects—Daniel Pérez Gil, principal; Sergio Reinoso, Ricardo Zepéda, design collaborators*
Engineer: *Vázquez Engineers—Ismael Vázquez*
Interior design: *Nuria Rodriguez*
General contractor: *Dangil Architects; Pablo Rodriguez*
Sources: *BVC (windows); Nuria Rodriquez (dining-room table/chairs); Targetti, Artemide, Simes (lighting); Alno (kitchen system); Lutron (controls); Hansgrohe (plumbing)*



Modern Los Altos Hills residence transformed to meet the needs of a growing family

Designed by John Funk in the mid-1950s for a childless couple, the Los Altos Hills house had fallen into disrepair when Johnson Fain set about remodeling and expanding it to suit the needs of a family of five. Preserving the original thermal concrete floors and steel frame, the firm transformed the single-story structure into an open, communal residence. Aiming to create a kitchen that would also serve as family room, design partner Scott Johnson, FAIA, says the firm utilized warm, natural materials and skylights to combine airiness with durability. The walls and cabinets are constructed of dark macassar ebony and light, quartersawn North American maple for contrast, while cork tiles on the pantry door provide a utilitarian surface for tacking up report cards and art projects.

In contrast to the open flow of the 6,800-square-foot home, the master bath is an intimate, sophisticated space. Enclosed within the master bedroom's private suite, it receives warm, diffuse light from a maple-lined skylight. Like the kitchen, it is rich in materials, including Italian glass mosaic tile on the walls and floor, a calacatta marble countertop, and an ebony millwork cabinet cantilevered from the wall. The slate floor tiles complement the concrete floors in the rest of the house that, in addition to the visual warmth they provide, contain the residence's only heating system. *Claudia La Rocco*

Architect: *Johnson Fain*
General contractor: *Redhorse Construction*
Sources: *Kitchen—American Slate (island countertop); Wavell Huber (cabinets, skylight box liner); Viking (stove); Sub-Zero (refrigerator); Fisher & Paykel (dishwasher); Knoll (chairs); Bathroom—Bisazza (mosaic tiles); American Slate (tile floor); Wavell Huber (cabinet); Dornbracht (faucets); Kohler (lavs, tub); Belfer, Fontana Arte (lighting)*



Kitchen & Bath Portfolio

The ideal "green" kosher kitchen

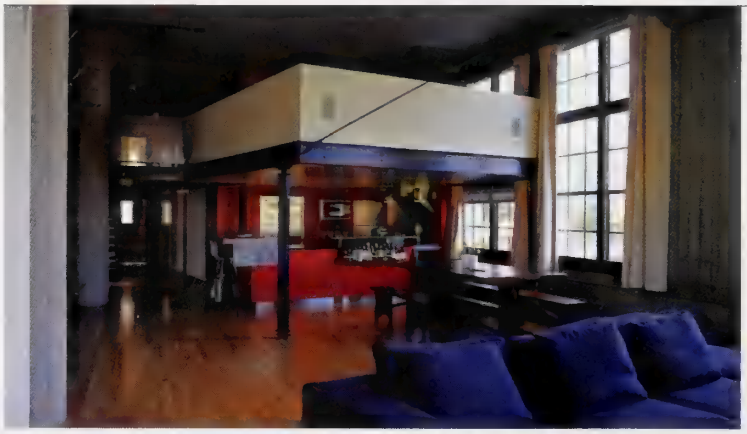




When William McDonough + Partners designed the kitchen for their client's Virginia Beach residence, they faced a central challenge: build two kitchens in one for the kosher couple and their four children. The client needed separate stovetops, ovens, sinks, and two sets of pots and dishes but did not want a split kitchen. To create unity, says design partner Allison Ewing, AIA, the firm concentrated on materials and accessibility, allowing for ease of movement into and throughout the space. Balancing the client's interest in diversity with the need for harmony, the kitchen is limited to three main materials: Italian slate, stainless steel, and cherry.

Partner William McDonough's attention to environmental issues manifests itself throughout the residence, from the use of sustainably harvested Spanish cedar for the exterior paneling to the reclaimed blue limestone in the sunroom and kitchen. Working with Nelson-Byrd Landscape Architects, the architect integrated the residence and pool house and their marine setting. The kitchen and family rooms mimic a pier, while the two adjoining wings are loosely articulated as boats. A reflecting pool outside the kitchen forms a miniature of the bay beyond. *C.L.R.*

Architect: *William McDonough + Partners*
General contractor: *James M. Sykes Construction*
Interior design: *Studio Soffield*
Sources: *Miele (dishwasher); Duratherm (entry doors, windows, patio doors); Paris Ceramic, Ann Sacks (tile); Sub-Zero (freezer, refrigerator); Trane (HVAC); Bulthaup (cabinets, plumbing fittings); Franke (plumbing fixtures, garbage disposer); Poulson, Alcko, Bega, Speciality Lighting, LSI, Bruck, Starfire, Exterieur Vert (lighting); La Cornue, Gaggenau (oven, range); Cabot, Sikkens, Benjamin Moore (paints/stains); Lutron (lighting system)*





Like the rest of the loft, the kitchen features an open design. Its colorful cabinetry lightens the space beneath the lofted bedroom and provides a contrast to the residence's industrial accents.

A playful twist on a loft's industrial style

The Zeff loft's light-industrial motif reflects the aesthetic of the 1907 Clocktower Building, a former lithography plant in San Francisco, where it is located. The kitchen, in turn, suitably sports some standard industrial products—a Sub-Zero fridge and Viking range—but the architect's custom-made details distinguish it from similar designs.

For one of those distinctions, the architect created an exposed-metal system attached to the kitchen that functions as a bar. Extending the boundary of the kitchen, the bar invites the client, a bachelor, to use the kitchen from the dining area and adds to the openness of the space.

In keeping with the playful aspect of the kitchen, the architect incorporated his client's passion for airplanes into the design of the attached eating area. While not obvious to the uninformed eye, the cantilevered metal counter subtly suggests a plane's wing.

Offsetting the loft's industrial accents, the kitchen features stained-wood cabinetry and recessed lighting. The resulting effect is an apparent mix of contrasting colors. *D.L.*

Architect: *Mark Horton Architecture*
Sources: *Bosch (dishwasher); GE (microwave); Franke (sink); Grohe (faucet); Zephyr (vent hood); Absolute Black (countertop); OnSpot Welding and Design (metalwork); Chris Chaput Cabinet Maker (cabinets, pulls)*

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Residential Products

K/BIS Review

Sculptural bath furnishings, cooking appliances that adapt to their environment, and the latest in kitchen and bathroom design and technology was on display at this year's Kitchen & Bath Show held in April. *Rita F. Catinella*

▼ Sculptural bath furnishings and fittings

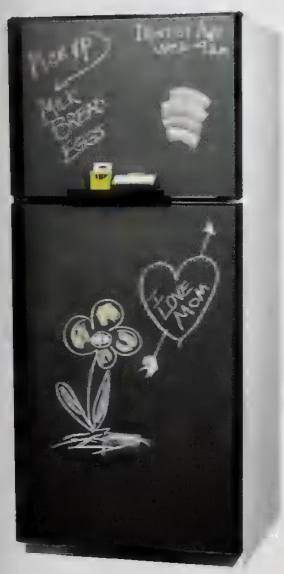
The initial U.S. launch of Australian-born designer Marc Newson's collection for Porcher includes a pedestal lavatory, bidet, and a freestanding 6' bathtub. The polished chrome faucets, including an 8" widespread faucet, monoblock faucet, and tub filler, are influenced by Newson's early training as a silversmith and jewelry designer. The collection will be available in October. 800/524-9797. Porcher, Phoenix. **CIRCLE 213**



► Door-free privacy

Iridess, the new shower concept from Clarke Products on display in the Lucite booth during the show, features a curved, translucent, glass-free wall designed to be a sculptural retreat. The 56" x 72" footprint leaves room for a choice of wall, ceiling, and handheld showerheads and body sprays. The Lucite surfaces, available in four translucent shades, coordinate with Clarke's range of slip-resistant acrylic shower floors. The high-gloss, nonporous surface softly diffuses light while providing ample privacy. 800/426-8964. Clarke Products, Dallas. **CIRCLE 214**





◄ Communications center

While several "interactive" fridges at the show utilized the latest in technology, Frigo Design takes a different approach to home communication with the Chalkboard Frame and Panel set. Easily attachable to any make or model of refrigerator (back to 1942), the magnetic chalkboard surface is available in either green or black. Frigo Design manufactures frame and panel sets for all makes and models of refrigerators, dishwashers, and compactors, in custom-finish materials including stainless steel, laminates, woods, and metals. 800/836-8746. Frigo Design, Brewerton, N.Y. **CIRCLE 215**

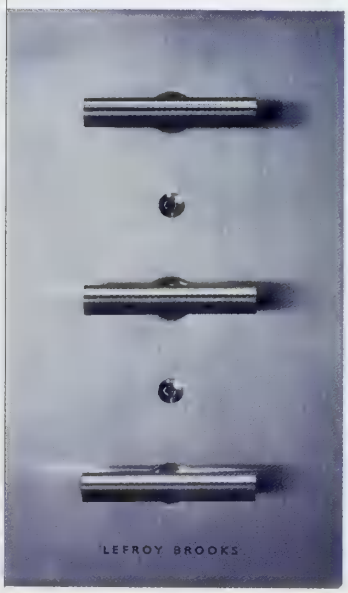


▲ Pint-size professional

FiveStar claims that its 24" range offers the same professional cooking capabilities as its larger counterparts, along with a smaller footprint for urban living and small spaces. This new all-gas model includes two Vari-Flame burners (which allow for a constant-flame simmer as low as 400 BTUs), FiveStar's Airflow convection oven, and all of FiveStar's standard features. 800/553-7704. FiveStar, Cleveland, Tenn. **CIRCLE 218**

▼ If money isn't an object

While British designer Christo Lefroy Brooks is known for classic luxury bathroom furnishings and fittings inspired by the Edwardian era, his new XO collection offers a distinctly more Modernist option for a select clientele that includes movie stars and the Prince of Wales. A costly manufacturing process results in jewel-like, stainless-steel plumbing fixtures with a price point to match—basic taps start at $1,400. 212/226-2242. Lefroy Brooks USA, New York City. **CIRCLE 216**



► Chilling and grilling by the pool



Whirlpool is entering the outdoor kitchen market with a complete line of KitchenAid professional-quality stainless-steel appliances. These include freestanding and built-in outdoor gas grills, slide-in refrigerators, freestanding and built-in outdoor bars, food serving carts, and high-capacity outdoor ice makers. An extension of the KitchenAid Architect Series kitchen appliances, the line also includes premium accessories such as a stainless-steel griddle, wok ring grates, and access doors. 800/253-3977. Whirlpool Corporation, Benton Harbor, Mich. **CIRCLE 217**

Residential Products

K/BIS Review

► Series of firsts

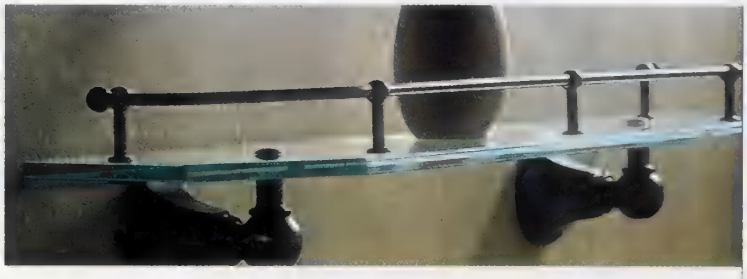


Axor Citterio, the newest addition to the Axor collection, will include a complete assortment of lavatory, bidet, and tub faucets, and shower equipment, controls, and accessories. Designed by Antonio Citterio, who considers himself "first and foremost an architect," the new line is the first time Hansgrohe is unveiling an Axor bath collection in both Europe and the U.S. The option of an electroplated platinum finish and plumbing fixtures (a freestanding basin and bathtub) are also firsts. 770/360-9880. Hansgrohe, Alpharetta, Ga. **CIRCLE 219**

▼ Serene bathing

The Neo-Metro collection is a compilation of hand-sculpted and hand-finished stainless-steel bathroom fixtures. The Cerine Series, the newest offering in the line, combines a choice of three different wood veneers—bamboo, cherry, and mahogany—with a stainless-steel toilet, vanity, tabletop vessel, and soaking tub. In addition to veneer, specifiers can clad the products with their own choice of materials. 800/488-8999. Acorn Engineering Company, City of Industry, Calif. **CIRCLE 220**





▲ Tempered glass shelf

Ginger presented its Art Deco–influenced Empire lighting and bathroom accessories in oil-rubbed bronze at the show. This new collection includes sconce lighting, mirrors, and decorative cabinet hardware, as well as standard, specialty, and hospitality bathroom accessories. The tempered-glass toiletry shelf with gallery rail (shown) in oil-rubbed bronze is offered in 18" and 24" long versions and is 5¼" deep. 888/469-6511. Ginger, Fort Mill, S.C. **CIRCLE 221**

▼ Customizable cooktop

The Matrix personalized cooking system is made up of cooking surfaces that vary in size and function and include gas, electric, and induction elements. Each individual component of the collection was created as an independent element that can stand alone or interact with the complete collection. A universal connecting strip allows for various combinations; for example, a pair of 12", two-burner gas elements can be mixed with a 12" contact grill, or a 32", 5-zone, sensor-touch cooktop can be matched with an induction wok element. 800/459-0844. Küppersbusch, Tampa. **CIRCLE 222**







▲ No more battery replacements

EcoPower is the first self-generating hydropower sensor faucet that puts water to work by harnessing the electrical power generated by its own water flow. EcoPower produces its own electricity each time water flows over its internal turbine; the electrical energy is then stored in EcoPower's patented rechargeable battery housed within the faucet. Operating in conjunction with the internal turbine, the rechargeable battery has a 10-year life span. 888/295-8134. Toto USA, Morrow, Ga. **CIRCLE 223**

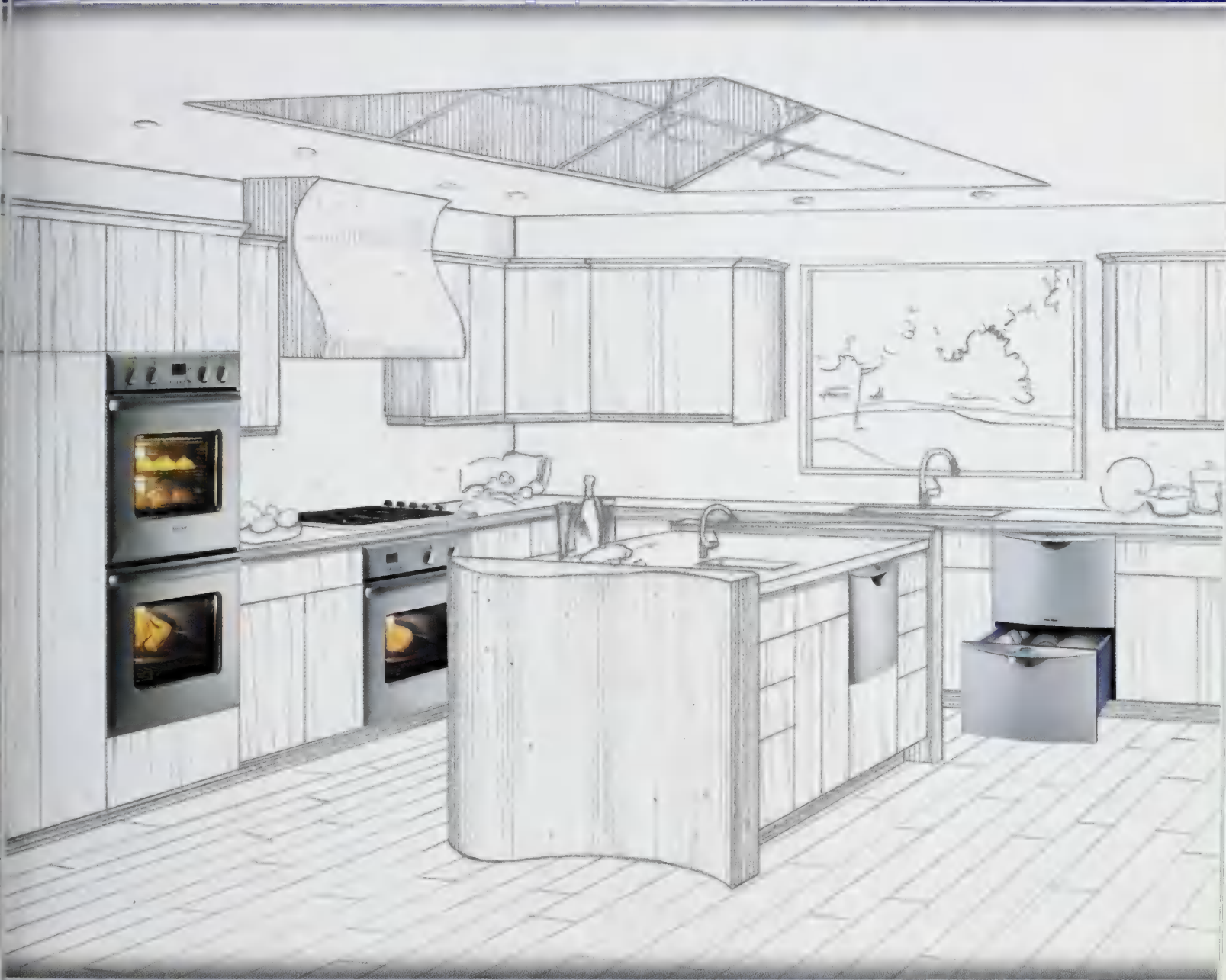


▲ Lime-fighting rain showerhead

Grohe's new 8" Rainshower all-brass showerhead features 120 spray nozzles designed to bend when gently wiped with a cloth, forcing the limescale to gently crumble away. To accommodate the larger diameter Rainshower, Grohe has also introduced two new 12" shower arms: one for ceiling-mount installations and one for wall mount. Both the Rainshower and shower arms are available in polished chrome; in sterling, polished brass, and satin nickel InfinityFinishes; and in a "Velour chrome" finish. 630/582-7711. Grohe, Bloomingdale, Ill. **CIRCLE 224**

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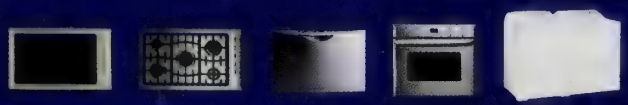
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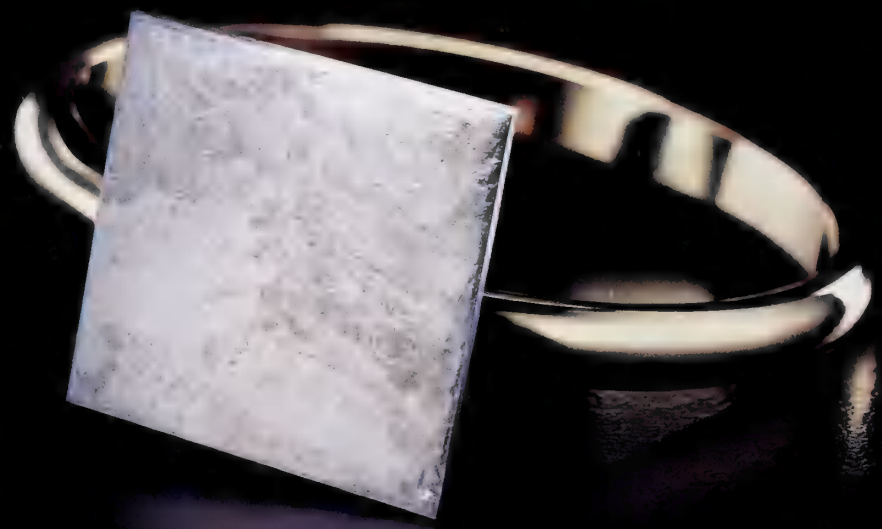


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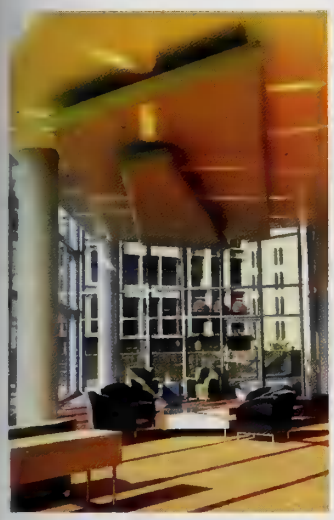
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New Products

Among the many issues to consider when specifying **renovation and restoration** products are sustainability, codes and regulations, and how to keep the building operational during the work. To see some of the latest products for **historic buildings, houses, interiors, landscapes, and streetscapes**, specifiers can attend the Restoration & Renovation Exhibition and Conference held 9/18–20 in Chicago. *Rita F. Catinella*

Multiple systems collaborate in Kentucky Center for the Arts' award-winning renovation





A recent renovation expanded the Center's lobby by 3,500 feet (left) and added a green-tinted "glass box" entrance (right).

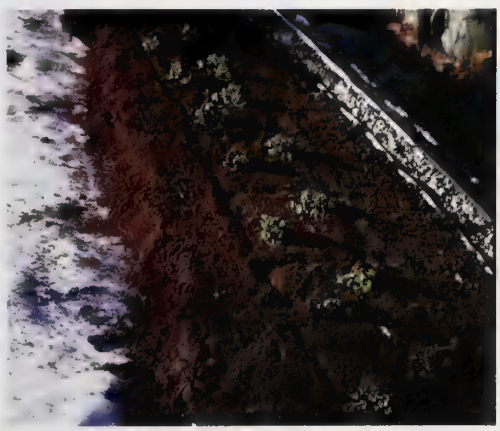
Three years ago, the Kentucky Center for the Arts—host of the 1984 Presidential Debates between Ronald Reagan and Walter Mondale—began a $4.1 million renovation that resulted in a 2002 Merit Award from the AIA's Kentucky chapter. Glazing contractor Harmon Inc. worked with architect Bravura Corporation, Louisville, to renovate and expand the Center's glass exterior while keeping it open to visitors. After the Harmon team completed a forensic exam of the building, a four-person reglaze team began to replace each lite with a new insulated or spandrel lite. The second phase of the Center's renovation project expanded the lobby by 3,500 square feet and reconfigured its primary entrance to align with Main Street.

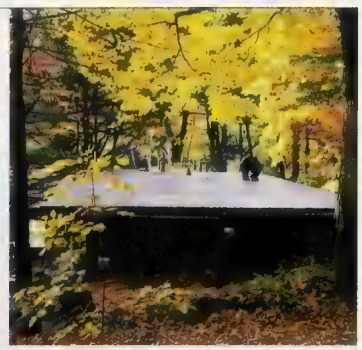
Harmon's contribution involved designing and installing the entire glass exterior addition. (W&W Glass Systems engineered, fabricated, and shipped the system.) This included the "connective tissue" between the newly renovated facility and the newly constructed expansion, plus sloped skylights, a suspended "glass box" entry system, aluminum entry doors, aluminum panels and trim, as well as three different custom curtain-wall systems. The project's myriad systems relied on eight types of Viracon's insulated glass that coordinated with the six aluminum finish colors used on the framing units. 763/287-4900. Harmon Renovation, Golden Valley, Minn. CIRCLE 225

Historic home's restored "green roof" blends with nature again

The Johns Manville Roofing Systems Group and Hayden Building Maintenance, West Nyack, New York, teamed up to donate a new roofing system to the Russel Wright Design Center in Garrison, New York. The Design Center is the former home and studio of Russel Wright (1904–76), the designer credited with bringing affordable modern design into the American home during the 1930s to '50s. Manitoga, a nonprofit trust that owns the home, is currently restoring it to serve as a museum and educational institution dedicated to advancing Wright's legacy.

Wright's home, which he named Manitoga and considered his greatest design achievement, provided him with a palate on which he could experiment with design and materials. To help blend it into the environment, Wright planted a garden on the roof. However, since the roof was never intended to be a "green roof," the system developed leaks that eventually led to structural damage. To restore the original outward appearance of the roof, Hayden installed ½"-thick insulation to the 1,100-square-foot deck and then fully adhered Manville's UltraGard SR80 PVC membrane. The new membrane utilizes a PVC-clad flashing that achieves restoration requirements while still providing a continuous PVC roofing system. The new roof also allows for a slight increase in slope to provide adequate drainage, a missing component in the original design. A compost pea-gravel mixture and native plants were added to replicate Wright's original design intent. 800/654-3103. Johns Manville, Denver. CIRCLE 226



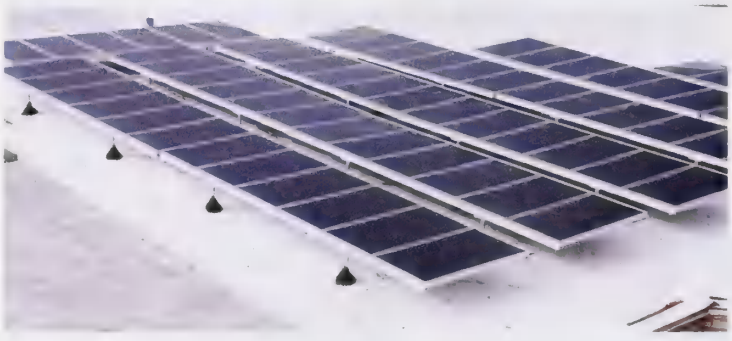


Native plantings will provide a green roof for Russell Wright's Manitoga.

New Products

▼ Sustainable renovated roofing

The Cleveland Environmental Center Building, located in a renovated historic bank in Cleveland's Ohio City, showcases a variety of sustainable roofing solutions designed by The Garland Company. Among the numerous sustainable roofing systems provided by Garland are a GreenShield "green roof" that has been planted with native vegetation; SolarGrid PV rooftop panels (shown); and a highly reflective White Knight urethane coating. 800/741-3157. The Garland Company, Cleveland. **CIRCLE 227**





▲ Facelift for a 130-year-old

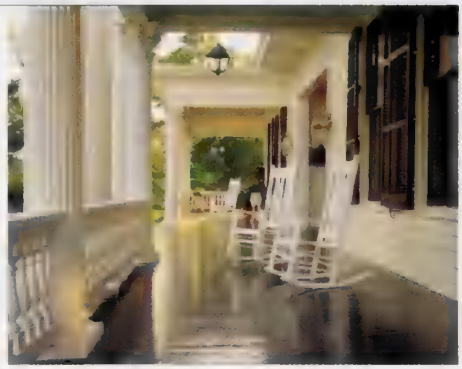
Conservators at Integrated Conservation Resources in New York City turned to Prosoco's Conservare HCT (Hydroxylating Conversion Treatment) to stop the decaying marble Mexican War Monument in Harrisburg, Pennsylvania, from crumbling during a 2002 restoration. The waterborne treatment strengthens limestone, marble, and other "carbonate" stones without affecting appearance or breathability. 800/255-4255. Prosoco, Lawrence, Kansas. **CIRCLE 229**

▼ Traditional siding panels

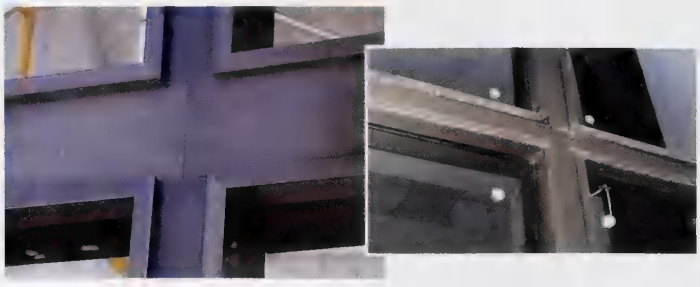
The Restoration Classic collection includes siding, soffit, trim, and accessories in a range of profiles, colors, and finishes. Specifiers can choose from two low-gloss Classic finishes, the original Restoration Smooth and the contemporary Select Cedar grain, both in 13 colors. Four siding profiles are offered with a Class A fire rating, the .088" StormRoll Hem for increased wind resistance, and GripLock for a smooth installation. 888/838-8100. CertainTeed, Valley Forge, Pa. **CIRCLE 228**



► Makeover for antebellum home



Burbash, a historic antebellum home in Troy, Alabama, received a facelift from Tendura and HB&G. TenduraPlank ⅛" x 3½" tongue-and-groove composite plank was used in 8', 10', and 12' lengths on the home's porch. HB&G Corinthian columns, balustrades, pediments, and other exterior elements grace the entrance. Both composite systems resist termites and fungus and can withstand Alabama's humid climate without warping, splitting, or rotting. 800/TENDURA. Tendura, Troy, Alabama; **CIRCLE 230** 800/264-4HBG. HB&G, Troy, Alabama. **CIRCLE 231**



▲ Bronze bracing

Dedicated in 1963, the Sheldon Memorial Art Gallery on the University of Nebraska-Lincoln campus was designed by Philip Johnson. Two expansive bronze-clad window walls (detail, above right) were in need of reengineering to correct sagging in the single horizontal supports. Degginger's Foundry, which was contracted to fabricate and install all of the replaced bronze work (detail, above left), added an additional horizontal member to break the window expanse, tripled the lower horizontal in size, and specified thicker glass. 785/232-4788. DFI Restoration, Topeka. **CIRCLE 232**

▼ Engineering school reclad while in session

The University of Louisiana at Lafayette selected Metl-Span panels for a major retrofit of Madison Hall, the University's School of Engineering building. More than 26,000 square feet of Melt-Span's CF-42 Striated polyurethane foam–insulated wall panels were installed on the exterior of the building, an effort completed mostly during the school year while classes were in session. Metl-Span's Classic Zinc Metallic finish was selected to complement remaining brick and masonry portions. The existing steel-frame window/wall system was cut from the building in stages. Installation of the Metl-Span panels was completed within just a few days as each portion of wall was exposed. The new panels also eliminated troublesome leaks that caused a serious HVAC issue in the aging building. 877/585-9969. Metl-Span, Lewisville, Texas. **CIRCLE 233**





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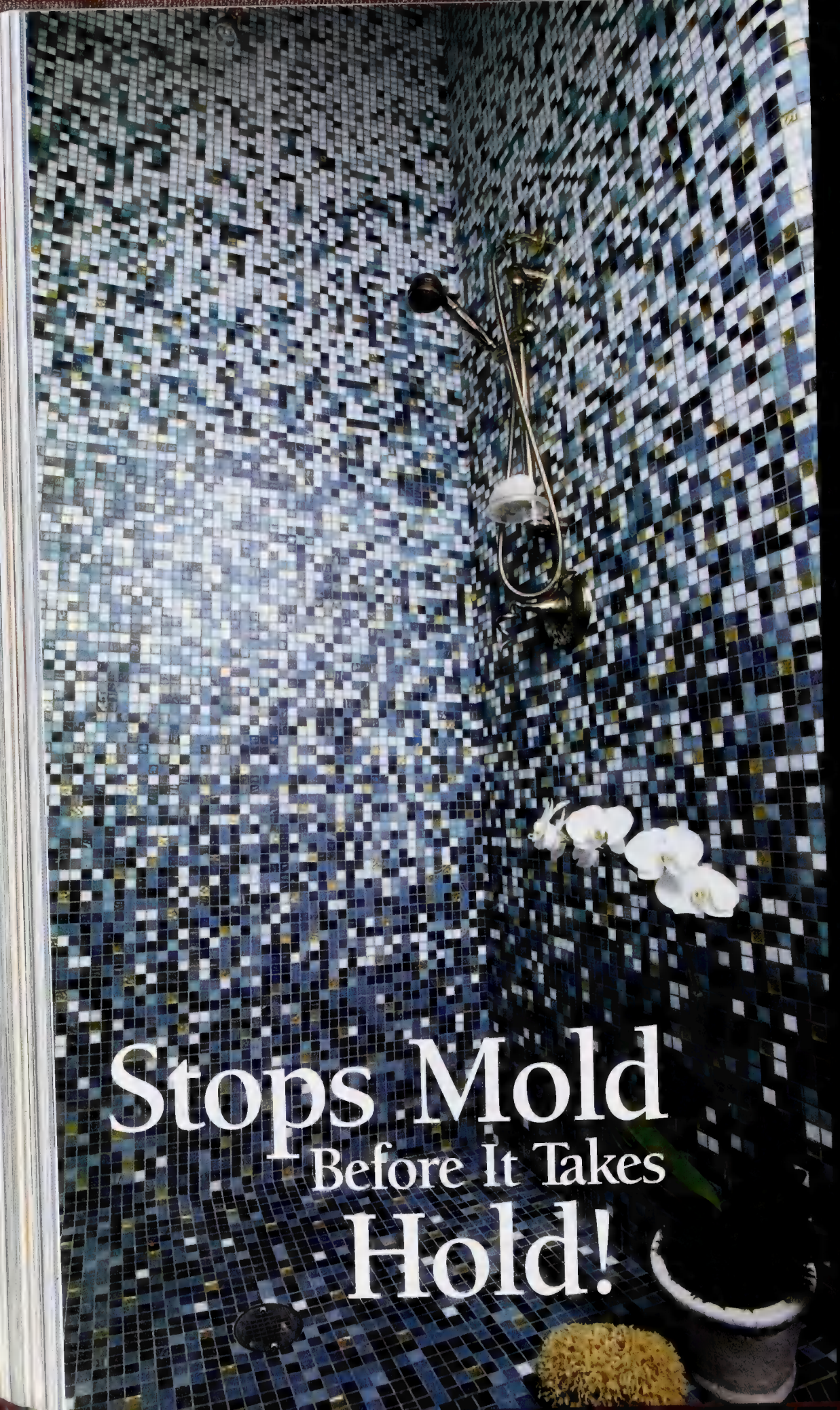
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Product Briefs

Take it Outside

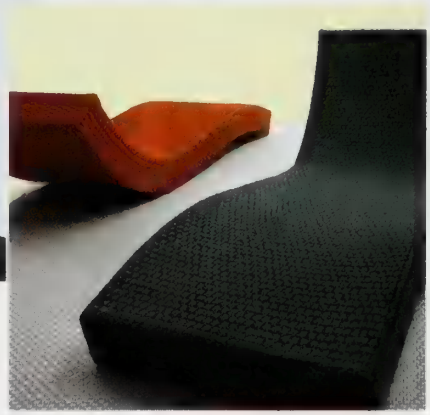
This April, Milan again welcomed throngs of visitors to the Salone del Mobile. The following pages showcase furniture and lighting highlights, including pieces from an international array of architects. *Josephine Minutillo*

▼ Lawn lights

Included at this year's fair was *Euroluce*, the biennial lighting exhibition. Artemide's introduction was vast and included several intriguing outdoor fixtures. Focus, a bollard fixture designed by Foster and Partners, features a wide range of accessories, including new colored filters. The Focus system can be used to accentuate architecture and as a guiding light to illuminate routes. The system is made of aluminum, stainless steel, and borosilicate glass. 631/694-9292. Artemide, Farmingdale, N.Y. **CIRCLE 234**







▲ Resort ready

At first glance, Paola Lenti's new introductions merely seem like more beautiful pieces to complement her already strong collection, until you realize they have been designed for use outdoors. The new collection is made of Rope 04—an innovative new synthetic material developed by Lenti that combines shine and softness with excellent colorfastness to UV rays, chlorine, and seawater—and includes outdoor rugs as well as seating components designed by Francesco Rota that employ a satin-finished steel structure with galvanized steel detailing. 915/545-5073. Counterpoint, El Paso, Texas. **CIRCLE 235**



◄ Provocative plastics

With last year's introduction of planters and vases, Serralunga made a name for itself as a leader in producing handsome, large-scale, rotation-molded plastics, and for attracting top designers to focus on outdoor objects. This year's presentation includes a range of basic seating that is both easy to maintain and attractive enough for use indoors, as well. The Weekend collection by Rodolfo Dordoni includes a chaise, seat, and stool in neutral colors. 212/966-0669. Outdoor/Indoor at Modern Age, New York City. **CIRCLE 236**

► Picnic tables

PicNik, a new table from the Belgian outdoor furniture company Extremis, is unlike anything else in the company's mostly wood collection. A collaboration between Extremis founder Dirk Wynants and designer Xavier Lust, PicNik's simple design incorporates table and seating into a light, stackable object. Made from a standard, massive plate of 10-mm-thick aluminum, PicNik comes in two sizes, one for adults and PicNik Junior for children. Available in a variety of colors, including white, apple green, sky blue, khaki, and earth, the table was specially created for small terraces and public spaces. 505/266-5245. Ideas for Living, Albuquerque. **CIRCLE 237**





▲ Terra-cotta for the new millennium

Teracrea is a new company whose aim is to create products designed to set greenery in architecture. Using terra-cotta as the material of choice, the firm enlisted top designers, including Ronan and Erwan Bouroullec, whose Treille cylindrical vase is pictured here along with Balconcino by Sebastian Bergne. According to Bergne, "the opportunity to reinterpret a traditional material in a contemporary way was what drew me to this project." 39/0445539080. Teracrea, Schio, Italy. **CIRCLE 238**

Product Briefs

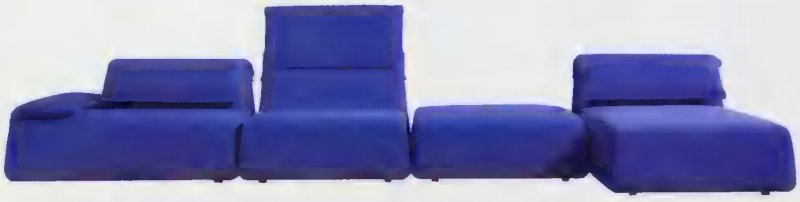
The Comforts of Home



▲ New showroom full of introductions

For the first time in almost 40 years, B&B Italia was a no-show at the furniture fair. Following on the heels of the opening of a new London store, designed by Antonio Citterio and John Pawson, B&B abandoned its stand at the fairgrounds this year to present at its sprawling new showroom, also by Citterio, on Milan's fashionable Via Durini. The Andy sofa collection (top) by Paolo Piva was expanded this year and is now available in a corner version. It also features a new roll cushion. Also designed by Citterio, Mart (right) is the result of new technology for producing heat-shaped leather, which is applied to a frame molded of cold-foamed polyurethane and plastic. The chair's final form was arrived at after many trials aiming to reconcile ergonomics with the need for executing the smallest number of stitches. 800/872-1697. B&B Italia USA, New York City. **CIRCLE 239**





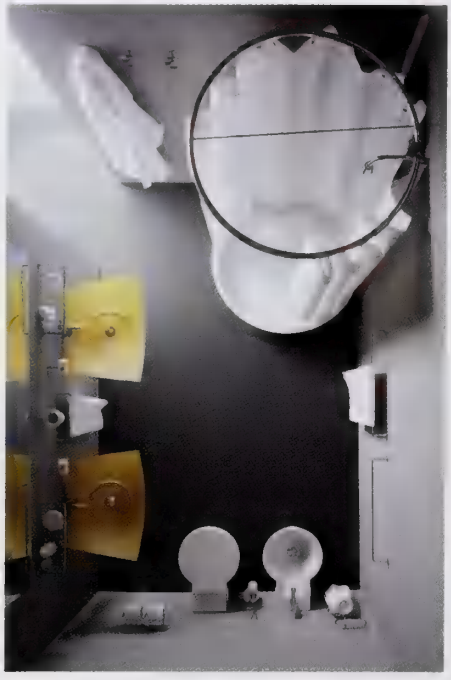
▲ Landscape furniture

Spanish designer Patricia Urquiola has had her hands full designing several new pieces for Moroso as well as its new, expanded stand left vacant by B&B this year. Urquiola's new Highlands sofa is a modular seating system with an emphasis on movement and verticality. Armrests and backs have two positions resulting in a variety of configurations. An upholstered ottoman with metal top can be integrated into the configurations or left freestanding. 305/640-1991. Europrojects, Miami, Fla. **CIRCLE 241**

▼ Curvy cutouts

Cappellini's extensive exhibition at SuperStudioPiù in Milan's Canal district consisted mostly of refined versions of last year's prototypes. Piero Lissoni's sinuous new seating collection, however, was an unexpected treat. Coupé and Gran Coupé feature armchairs, sofas in either a two- or three-seat version, and a chaise longue with right or left arm. Upholstered in the fabrics and leathers from Cappellini's collection, the seating elements are supported by a chromium-plated steel structure. 212/966-0669. Cappellini Modern Age, New York City. **CIRCLE 240**





◄ The best room in the house

For the past 30 years, the Italian bathroom line Agape has made it its mission to transform the bathroom from a utilitarian room filled with boring fixtures into a well-designed domestic space. Through research into new technology and materials and collaboration with top designers, including Benedini Associati, Konstantin Grcic, Enzo Mari, and Angelo Mangiarotti, the company has amassed a collection of innovative sinks, tubs, showers, mirrors, and accessories. 212/204-7100. Moss, New York City. **CIRCLE 242**

► Add a spring to your step

The Dutch furniture line Montis introduced several new pieces in Milan this year, including a dining table that was added to a growing line of tables first presented last year. Nika is a new seating collection by Gijs Papavoine, head of Montis's design team. The collection, which was designed as a "lounge suite," includes two-seater or three-seater sofas and an easy chair. The spring base adds comfort and lightness to the seat and is available in matte chrome or a lacquer finish. 888/8MONTIS. Montis America, Carrboro, N.C. **CIRCLE 243**





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Product Briefs

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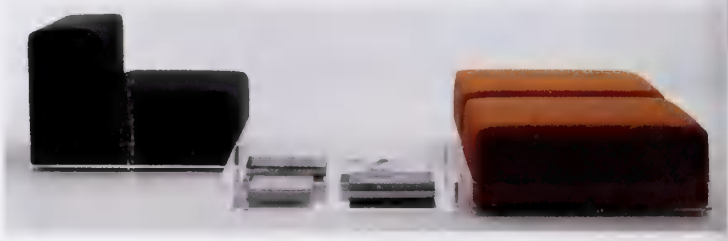


▼ Scaled-down architecture

Introduced last year, Moooi's City System was designed by Marcel Wanders, creative director of the pioneering Dutch collection. The simple storage unit is made from 13.5-mm, powder-coated steel and is available in white, aluminum, brown, and red. In an ongoing project, Wanders will recruit architects to add a design of their own to the system. The first creation in this collaborative effort was presented at Milan this year and produced by fellow Dutch designers MVRDV. Called CanCan, the small containers are made from steel and sheet magnet and can be randomly adhered to the system, creating various compositions reflective of MVRDV's own built work. 505/266-5245. Ideas for Living, Albuquerque. **CIRCLE 244**

▼ As you like it

Always a show highlight, Kartell delivered once again this year with several captivating new pieces set amid a groovy rainbow display by Ferruccio Laviani. Plastics, by Piero Lissoni, allows for the creation of a variety of compositions. The transparent base is a coffee table and a container for the cushions, which can be arranged as an armchair or ottoman. 866/854-8823. Kartell US, New York City. **CIRCLE 245**



► Emporio Armani



Monica Armani's extensive architectural background is evident in her rigorously designed and meticulously detailed collection. Her rational approach combines basic units into countless configurations of seating, tables, storage, desks, and a kitchen system. Units are composed of a powder-coated steel structure with surfaces in steel, wood, glass, and laminates. 314/454-0111. Centro Modern Furnishings, St. Louis. **CIRCLE 246**

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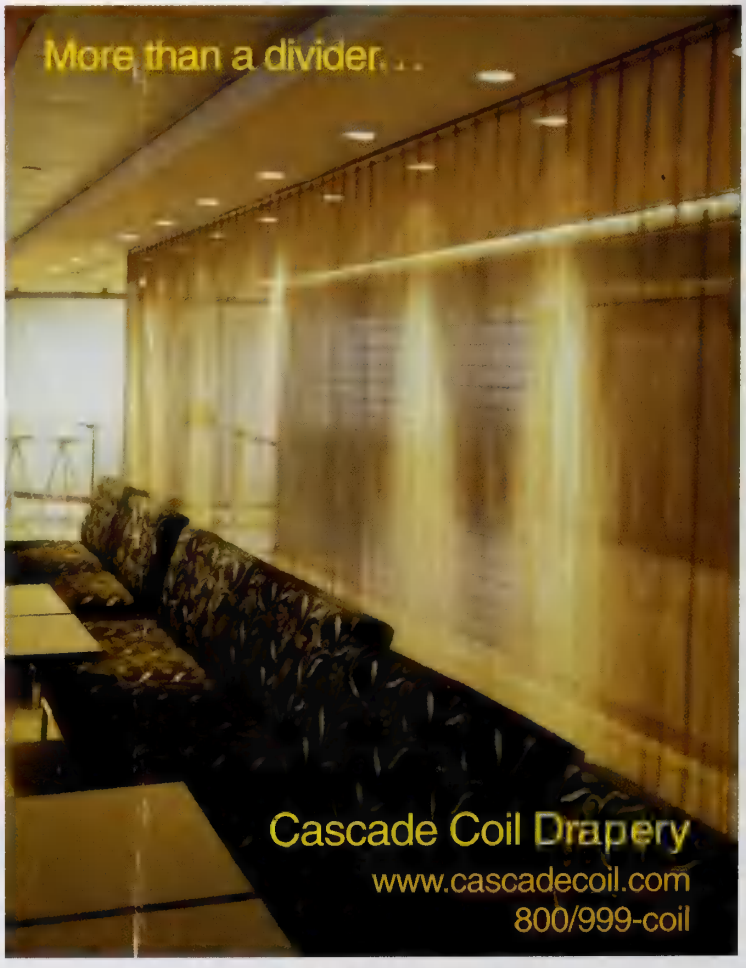
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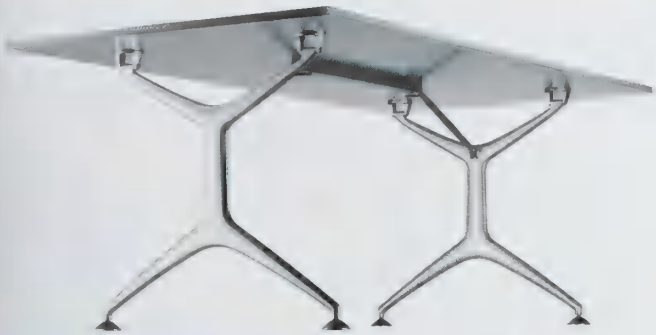
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Product Briefs

Tables and Chairs





▲ Taking design lightly

Italian furniture makers Alias strove for lightness this year, relying on longtime Alias collaborators Alberto Meda and Alfredo Häberli to deliver two impressive new pieces. Frametable by Meda is a highly flexible aluminum folding table. The Segesta chair by Häberli is a comfortable, stacking armchair made of composite, multilayer technopolymer with a steel structure. 631/549-1302. Alias USA, Huntington Station, N.Y. **CIRCLE 247**

▼ It's a wrap

The latest furniture design by French architect Jean Nouvel includes a simple table and chair with a very unusual look. Named MM, a reference to the word *mummy*, the chair's steel frame is completely wrapped with belts of coach hide. 4SPR is the matching table whose cone-shaped legs are also completely covered in coach hide belts. The pieces are produced by the Italian furniture line Matteo Grassi, a specialist in leather furniture. 212/334-2363. Vivendum by Arredo, New York City. **CIRCLE 248**





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Product Briefs

Out of the Ordinary

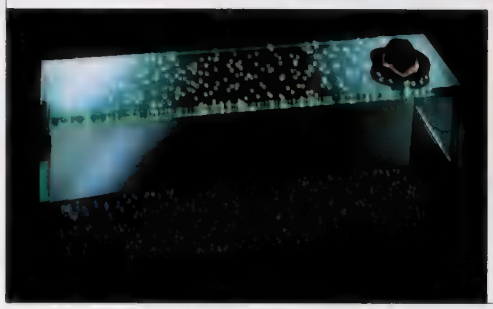
▼ Icy looks

At the same time that Sawaya & Moroni has undertaken a new challenge to manufacture mass-produced and moderately priced furniture, the company continues to produce special pieces and limited editions, this year introducing several extraordinary pieces from a variety of designers, including Christian Ghion, Jakob & MacFarlane, and company founder William Sawaya. With Iceberg, Zaha Hadid continues her exploration of forms that represent frozen movement. The bench is made of wood and aluminum sheeting and uses a system of jointed pieces. Hadid's other designs for the collection include an upholstered sofa and a solid, carved wood table. 415/543-5466. Limn, San Francisco. **CIRCLE 249**



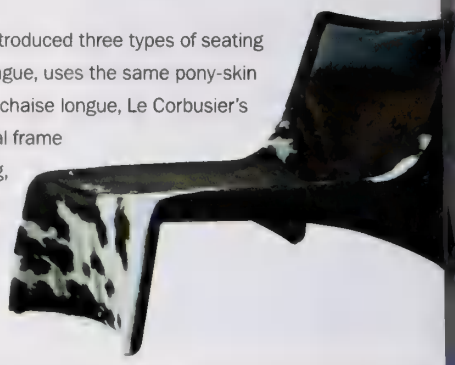
▼ A new constellation

German lighting designer Ingo Maurer and the company that bears his name continue to astonish with imaginative and sometimes fantastical designs. These include a chandelier made of Campari soda bottles and a table lamp with a Campbell's Tomato Soup can as a shade, as well as a limited-production LED Bench, seen here. The molded-glass bench contains 288 white LEDs emitting light on both sides. 212/965-8817. Ingo Maurer, New York City. **CIRCLE 250**



► Mythical inspiration

Swiss designer Hannes Wettstein introduced three types of seating for Cassina. Thor, his new chaise longue, uses the same pony-skin covering as Cassina's most famous chaise longue, Le Corbusier's LC4. In Wettstein's version, the metal frame is completely hidden by the covering, giving the greatest emphasis to the fabric. A mechanism by the feet lifts the end part of the seat for reclining. 631/423-4560. Cassina USA, Huntington Station, N.Y. **CIRCLE 251**



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The industry's premier forum for innovative designs in furniture hardware is once again seeking entries. This year marks the "18th Annual Doug Mockett & Company Design Contest". The competition is strictly limited to furniture components of any sort including hardware, accessories, and computer furniture components.

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Product Briefs

Déjà Vu

► Modern once more



Dezza was designed by Gio Ponti as a modern and light armchair that would be able to be shipped unassembled. Though the reintroduction comes fully assembled, it is available in the four versions from 1965: a low backrest armchair, a two-seat sofa, a large armchair, and a high-back armchair. Dezza is available in pony skin and a variety of leathers. 212/777-7592. Poltrona Frau USA, New York City. **CIRCLE 252**



▲ Art of this century

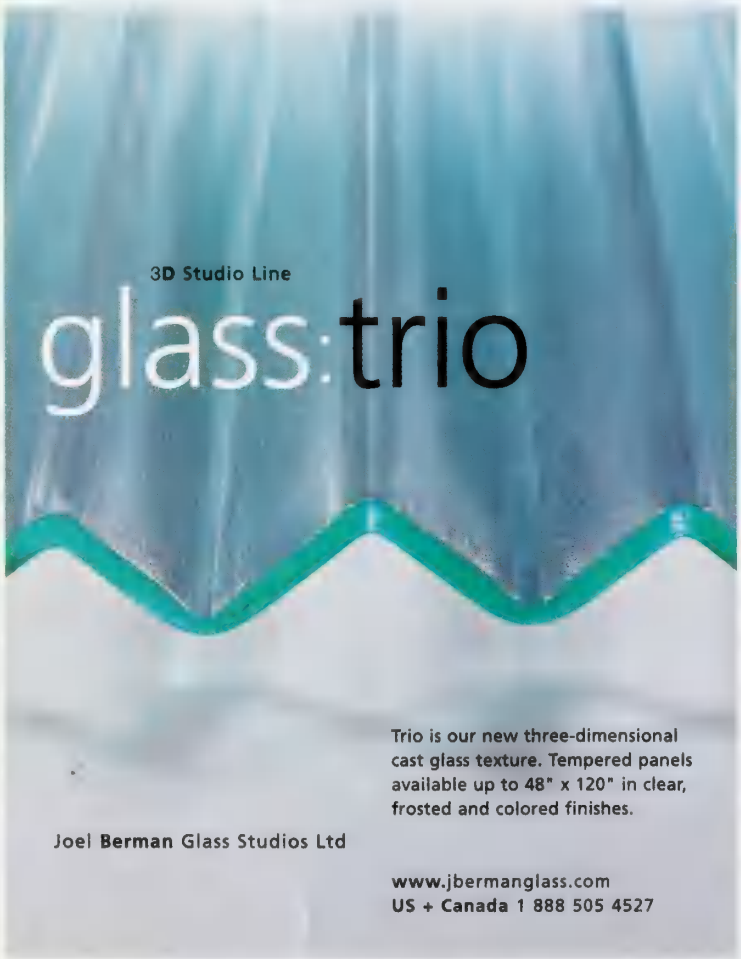
Austrian-born architect Friedrich Kiesler spent most of his life in New York City. It was there in 1942 that Peggy Guggenheim commissioned him to conceptualize a gallery for her art collection. The Correalistic Furniture he produced for the gallery has been reintroduced by Austrian furniture makers Wittmann. Correalism was a term Kiesler used to express the continual interaction between man and his natural and technological environments. 617/451-2212. Adesso, Boston. **CIRCLE 253**



◄ Decadent design

After years of near obscurity, the work of the extravagant Italian architect Carlo Mollino has gained newfound interest. Designed in 1949 and introduced by Zanotta this year on the 13th anniversary of Mollino's death, Cavour is an example of the designer's ability to merge architecture, art, and experimentation in a single object. The bleached oak frame is topped by a 12-mm-thick plate-glass writing surface, allowing the frame's tensile design to be visible from all angles. 314/454-0111. Centro Modern Furnishings, St. Louis. **CIRCLE 254**

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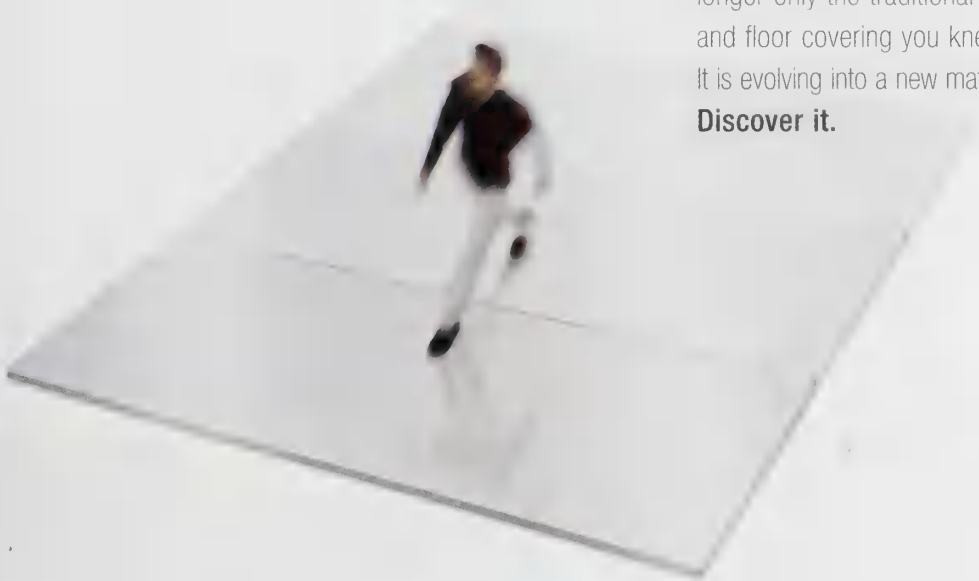
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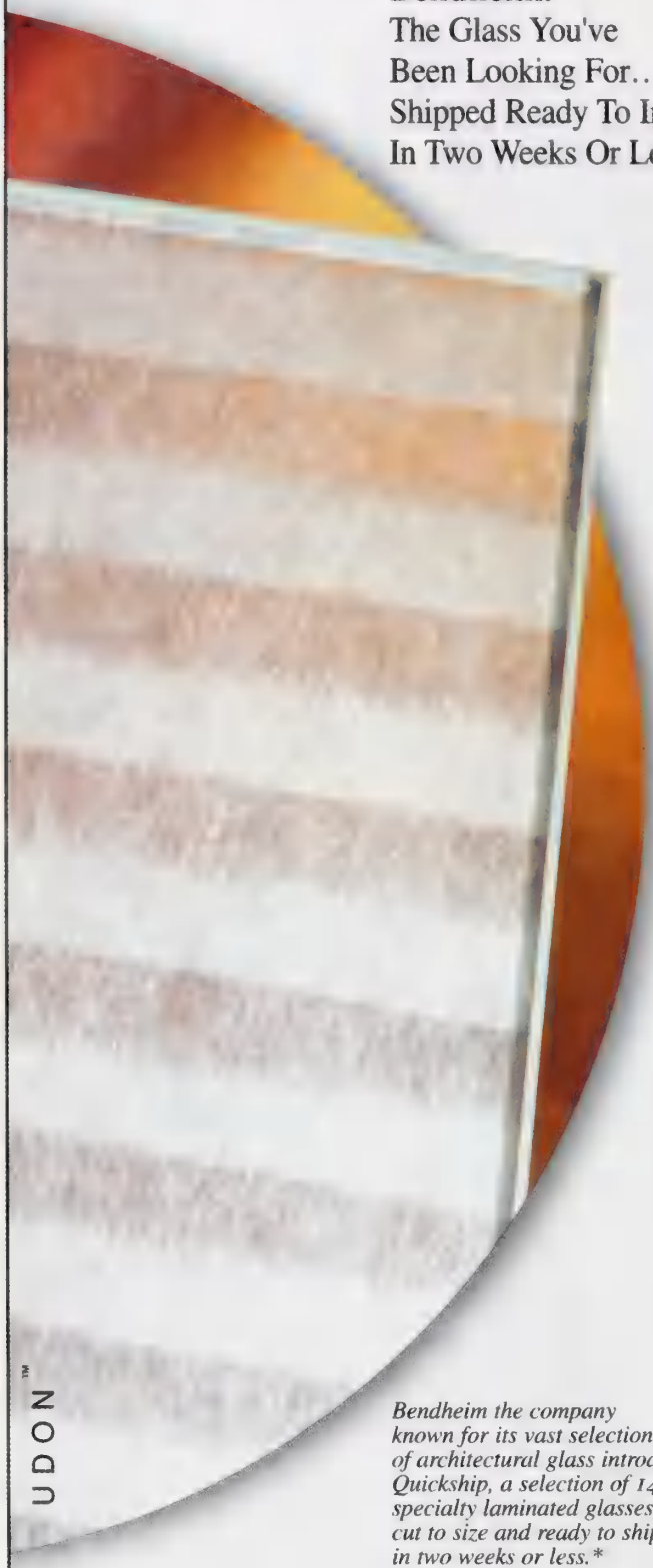
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Product Literature

Samples of hospitality

Hunter Douglas has developed its first comprehensive multiproduct sample collection for the hospitality trade. A sample book and coordinating reference guide feature tabs for each individual product, room setting photography, size specifications, features and benefits of each product, and information on operating systems. The company's new Web site is pictured at the right. 800/327-2030. Hunter Douglas, Fort Lauderdale, Fla. **CIRCLE 255**

Green flooring efforts

Domco Tarkett Commercial's environmental practices and green products are detailed in *Respecting the Environment*, a new brochure designed to communicate the company's ongoing "green" effort. 800/USS-TILE. Domco Tarkett Commercial, Houston. **CIRCLE 256**

Landscape lighting brochure

Starfire offers a new brochure describing the company's Treelite indoor/outdoor, low-voltage, linear-accent lighting system. Treelite's wiring allows a single lamp to fail without disrupting service to the rest of the run. 800/443-8823. Starfire Lighting, Wood-Ridge, N.J. **CIRCLE 257**

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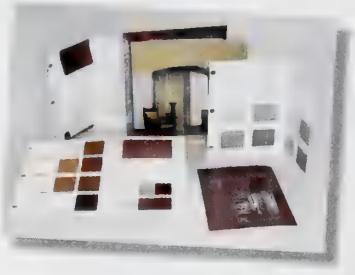
New green design Web resource from the ASID **www.asid.org/green.asp**

Networking community for kitchen and bath designers **www.kitchenbathpros.com**

Online art concierge service providing artwork to the A&D community around the country **www.alittlemorered.com**

Illuminated sign literature

Highlites offers a brochure detailing their new illuminated Special Wording signs. The full-color brochure details seven collections of Highlites signs that are now available with a choice of more than 80 special working phrases. The illuminated signs clearly mark building entrances, exits, fire escapes, rest rooms, and other special-use areas. 203/575-2044. Highlites, Waterbury, Conn. **CIRCLE 258**



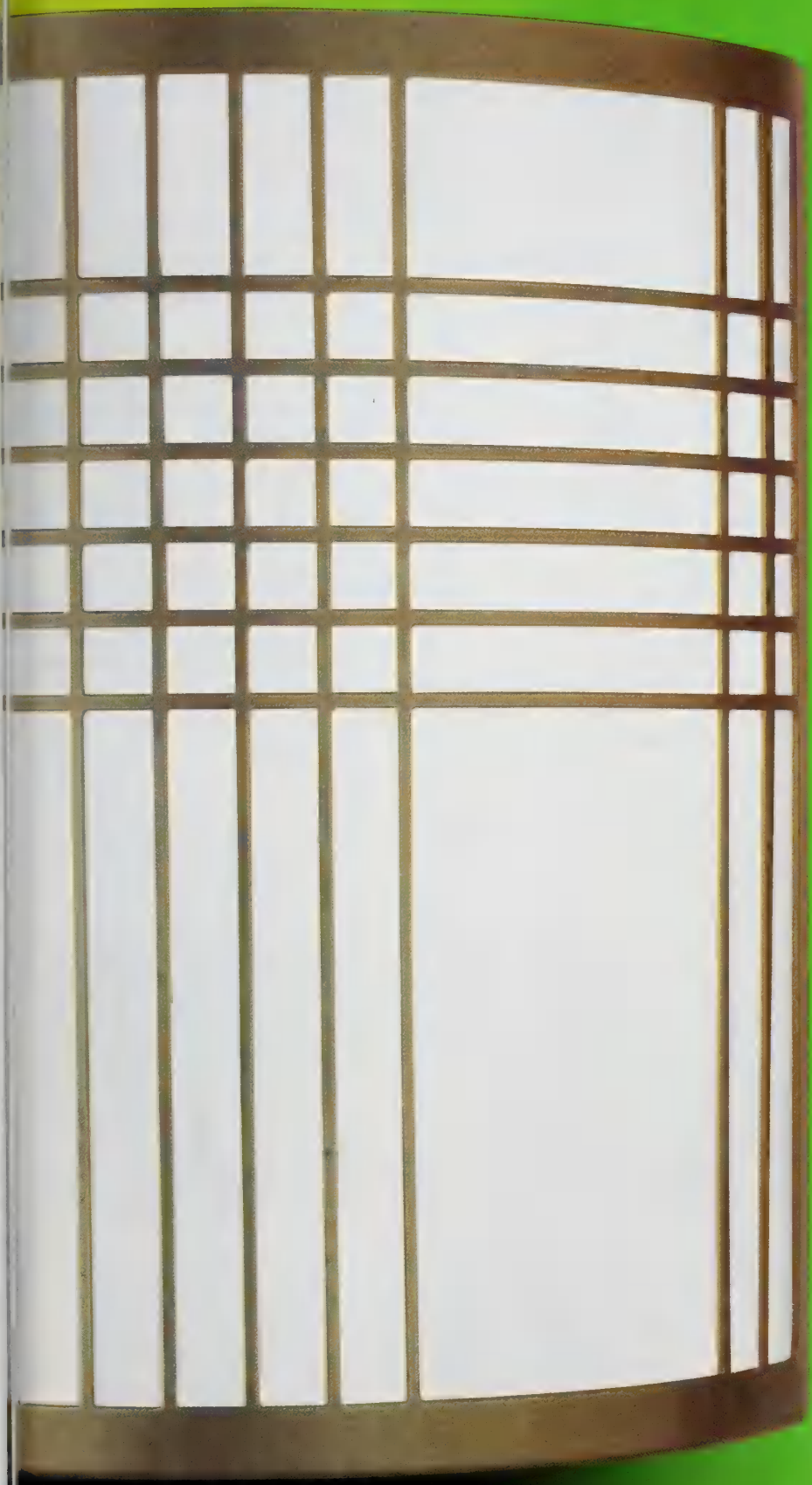






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Product Literature

Residential wiring brochure

Cooper Wiring Devices has issued *Structured Wiring Networks*, a brochure on its new, complete line of structured wiring products designed to offer a wide range of home networking solutions for the residential and small office markets. Fax 860/584-4759 to request literature. Cooper Wiring Devices, Long Island City, N.Y. **CIRCLE 259**

Stone source

Georgia Marble Company's new brochure features the company's Marblstal hardware items, colors, and specifications. Marblstal is ideal for applications including washrooms, shower stalls, and dressing-room partitions. 800/334-0122. Georgia Marble Company, Tate, Ga. **CIRCLE 260**

Bronze hardware brochure

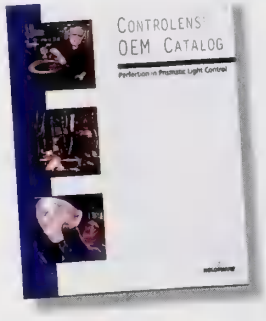
The new 40-page brochure from Sun Valley Bronze covers the latest information on the company's line of handmade solid bronze architectural hardware. The literature includes full-color product photos, examples of the six patina choices for either silicon or white bronze, and a thorough explanation of the design and production processes. The Sun Valley Bronze collection offers door and window hardware, bath and kitchen accessories, cabinet hardware, hinges, and gate latches in a range of styles from traditional to contemporary. 208/788-3631. Sun Valley Bronze, Hailey, Idaho. **CIRCLE 261**

Prismatic glass products

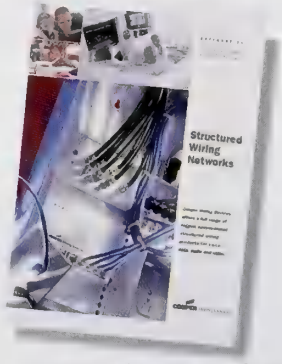
Holophane offers a new Controlens OEM catalog detailing the company's line of prismatic glass Controlens products, including flat lenses, refractors, and polycarbonate and acrylic lenses. The publication also describes Holophane's glass-making and custom-product capabilities. 740/345-9631. Holophane, Newark, N.J. **CIRCLE 262**

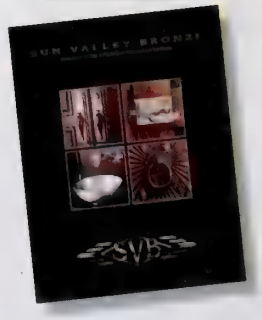
Rolling door catalog

Cornell Iron Works' 24-page *Rolling Door & Grille* catalog is a guide to rolling service doors, fire doors, counter doors, and grilles, and a selection of operators and control devices. Included in the catalog are technical details, construction features and specifications, and information on available materials and finish options. 800/233-8366. Cornell Iron Works, Mountaintop, Pa. **CIRCLE 263**









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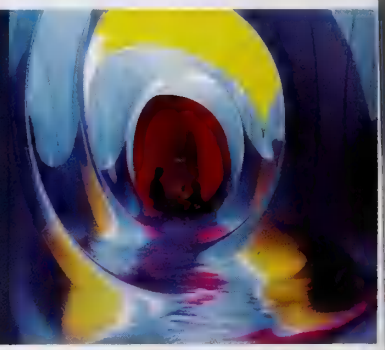


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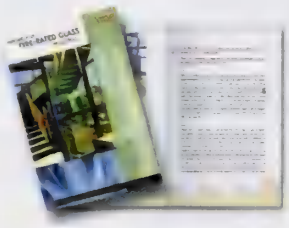


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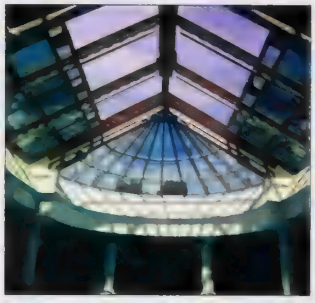


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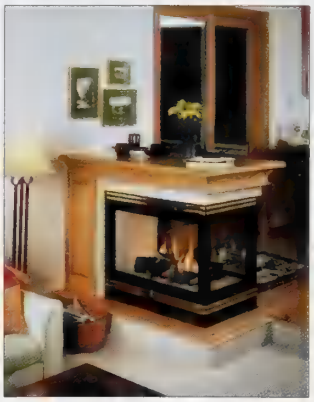


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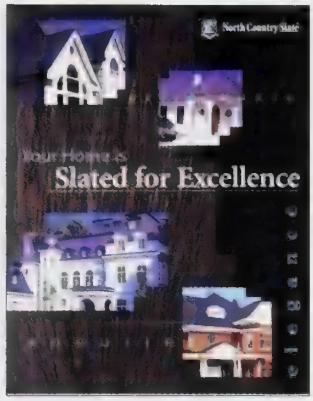


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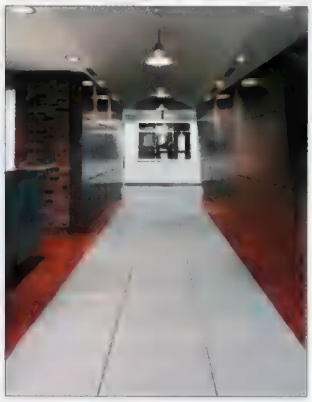


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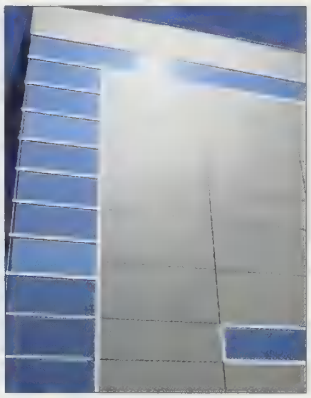


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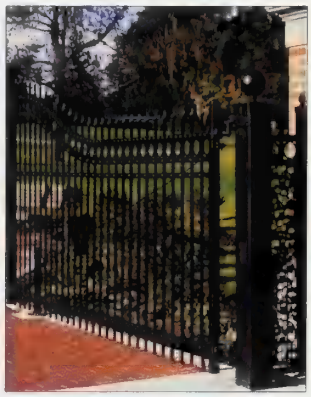


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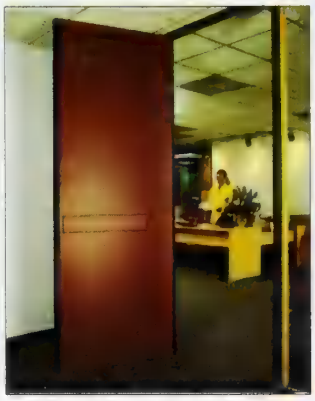


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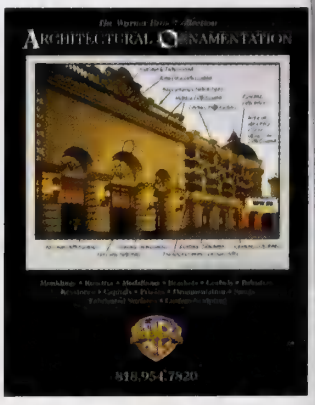


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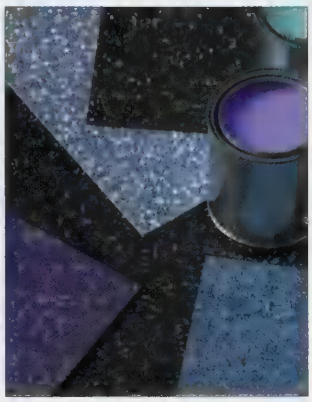


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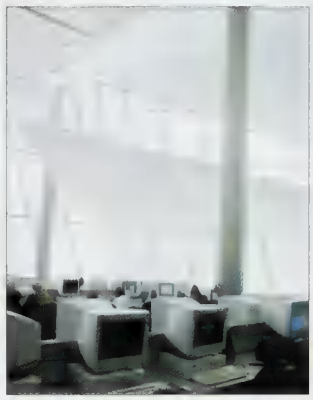


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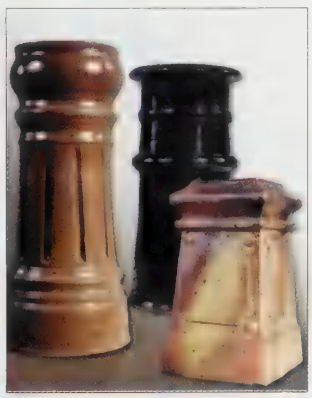


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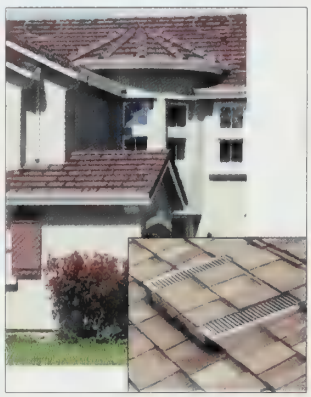


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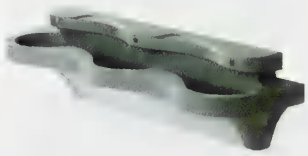


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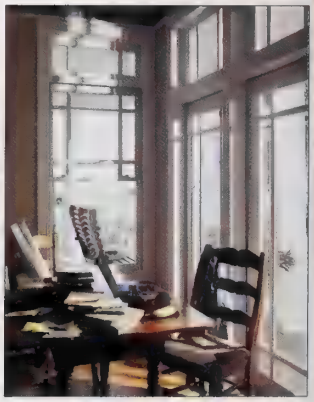


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Providers: Boston Society of Architects, Regional and Urban Design Committee, Housing Committee, and Center for Livable Communities
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Cleveland: The Treasures Within
October 16–18, 2000; Cleveland
Provider: Interfaith Forum on Religion, Art, and Architecture
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Gwendolyn Wright brings everyday architecture to the public

Interviewed by Suzanne Stephens

On July 14, a new PBS television series, History Detectives, *will air, with Gwendolyn Wright, an architectural historian and professor at Columbia University, as one of its four hosts. The 10, 1-hour segments explore the histories, myths, and mysteries behind intriguing everyday objects and places in America. The "detectives" uncover clues, test hypotheses, and research dusty archives to get to the truth. In addition to Wright, the hosts are Wes Cowan, an independent appraiser and auctioneer; Elyse Luray, an art historian and independent appraiser; and Tukufu Zuberi, a professor of sociology at the University of Pennsylvania and director of its African Studies Center.*

Q: *The name of your show is catchy, but it's not easy to make architectural history sexy to a lay audience. How do you propose to do it?* First, I should explain that we aren't necessarily looking at famous examples of architecture. We are searching for buildings, plans, and objects that have a story, but not one that is totally known. For example, we visit a Japanese pavilion built for the World's Fair of 1939 in Gilroy, California. After the Fair, a Japanese family in the town bought a part of the pavilion and built a home around it. We were curious why the Japanese government spent so much money to erect this structure—the original Fair pavilion cost $1 million, which was a lot in 1939. We found archival documents that showed that it was built primarily for propagandistic reasons. The Japanese foreign minister at the time felt it was needed to bolster Japan's image in the world as a supporter of beauty and culture, after its brutal war with China. Here architecture was used for political purposes. This is what the show is about: We want to look at the complex issues behind these buildings, and see how change operates. We hope to demonstrate to the public the ways architectural history can be learned and understood, and especially the manner in which it intersects with broader issues of culture, nationalism, race, and ethnicity.

How did you find the topics for the show? Interestingly, the executive producer, Nick Catliff, of Lion Television in London, wanted to do something on American houses, using investigative techniques—sort of a cross between *Antiques Road Show* and *CSI*. So PBS [the coproducer is Oregon Public Broadcasting with David Davis as its executive producer] sent out solicitations for ideas and examples of material culture in the U.S. The staff screened the responses for us to choose from.

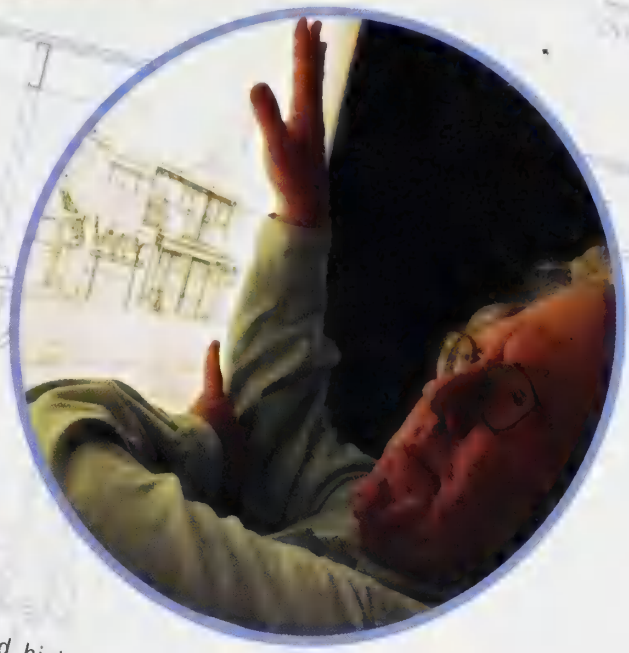
And how were you "discovered"? When Catliff was researching American houses, my books and writings, such as *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago (1873–1913)*, published in 1980, and *Building the American Dream*, published in 1981, came to his attention. Then the producers made a film clip of me.

What have you learned from this experience? First, being on television made me aware of methods for animating a university class. In terms of content, this sort of analysis makes you think about such things that historians don't treat seriously—such as the Art Deco style—and why. It is necessary to question our attitudes, and for students to learn why they don't look at something, and why they do. This comprehensive view is needed to understand the complexity and ambiguity of history.

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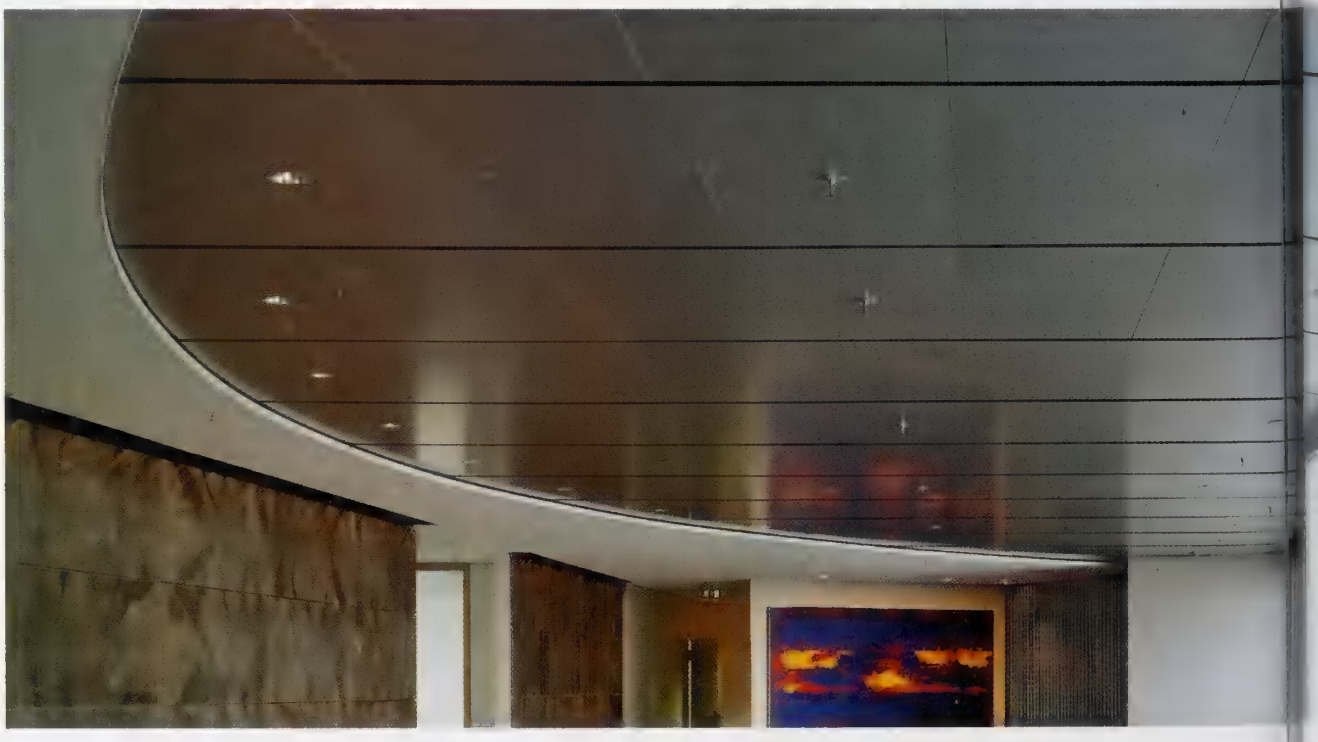
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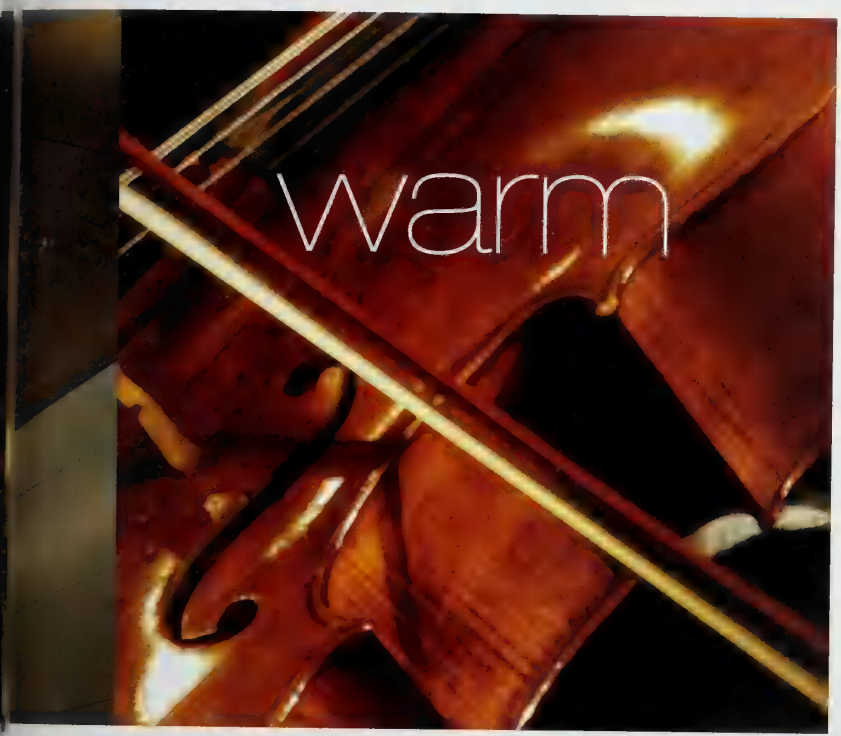
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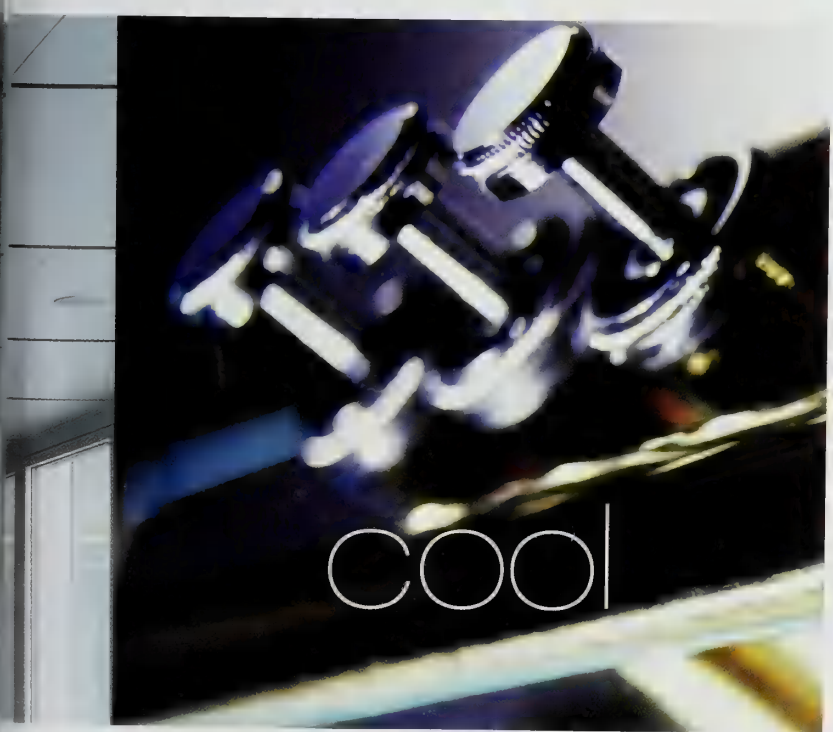
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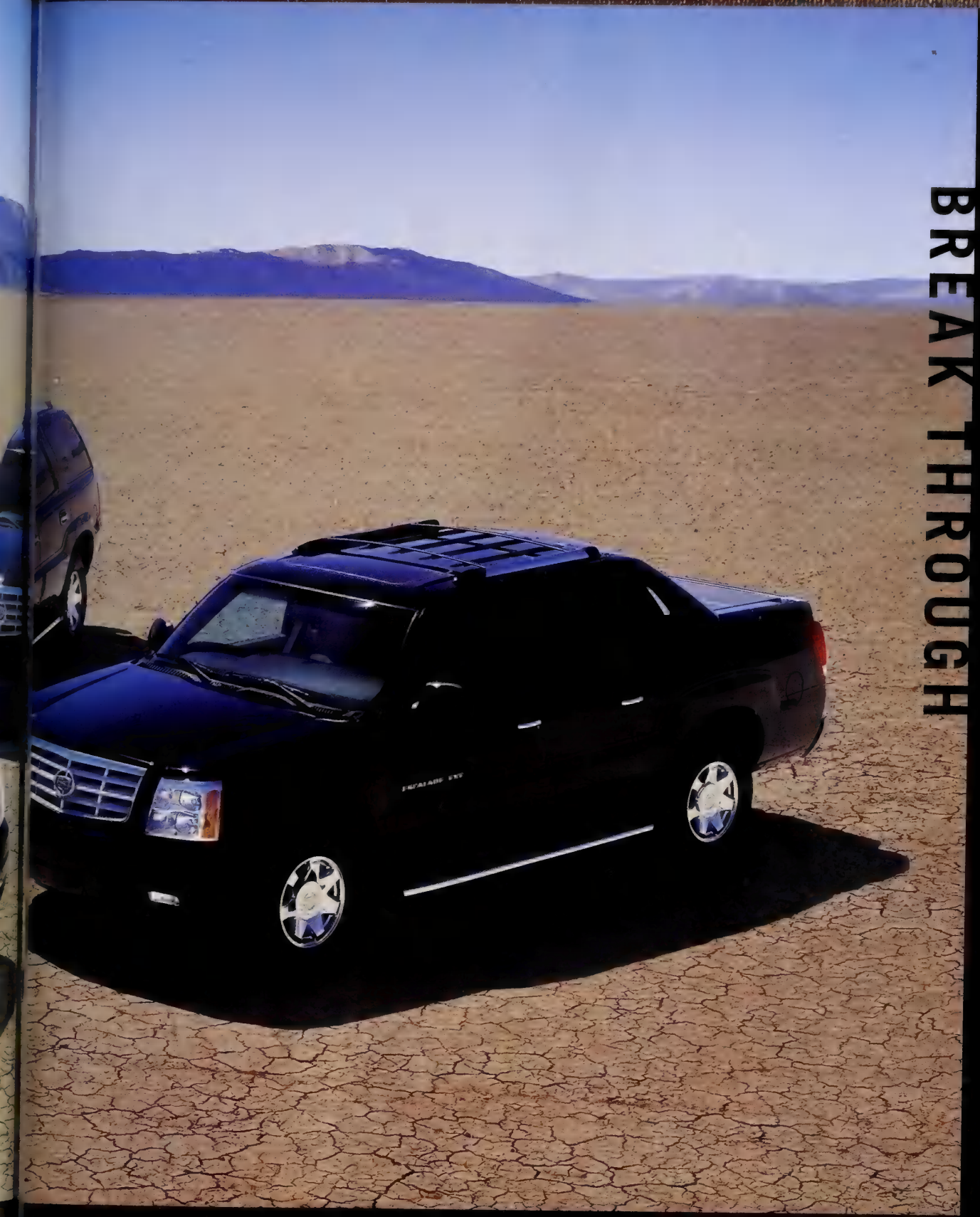
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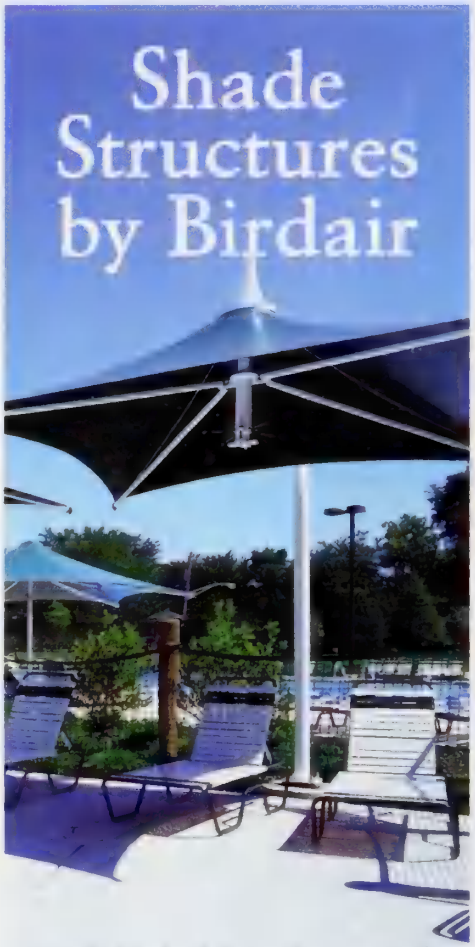


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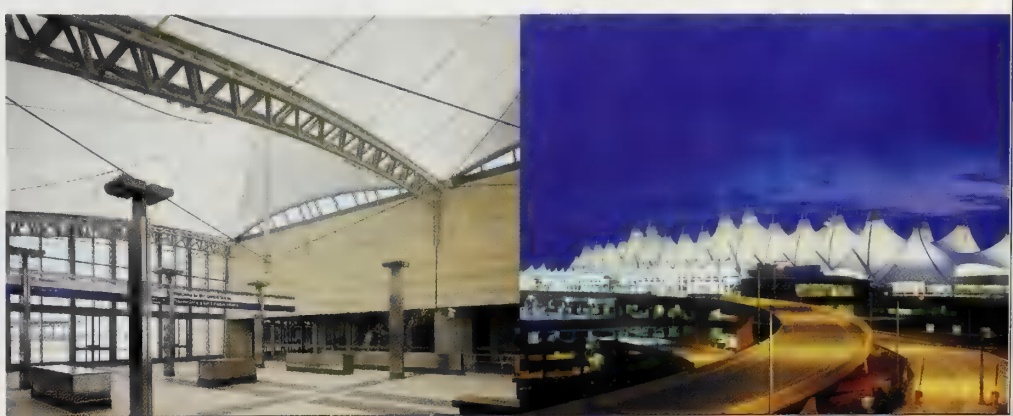
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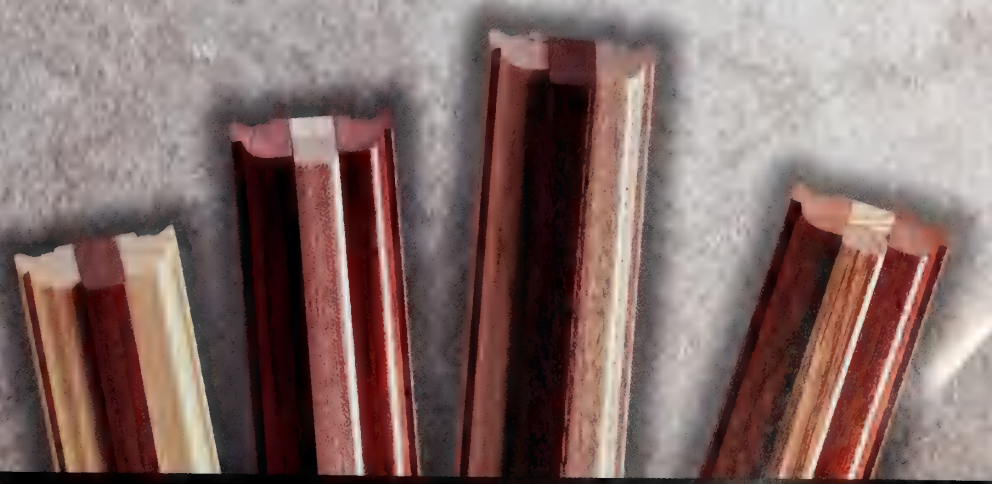
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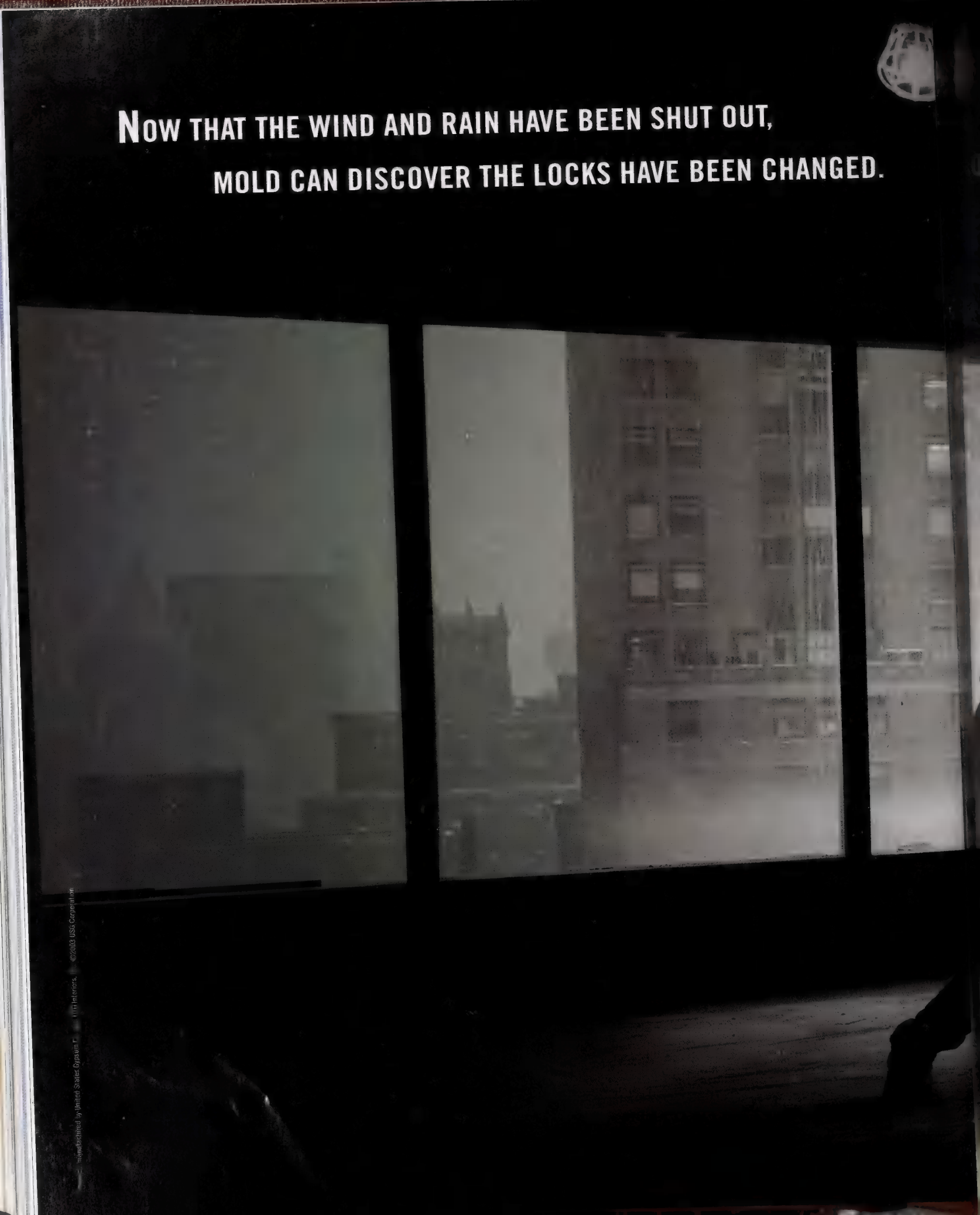


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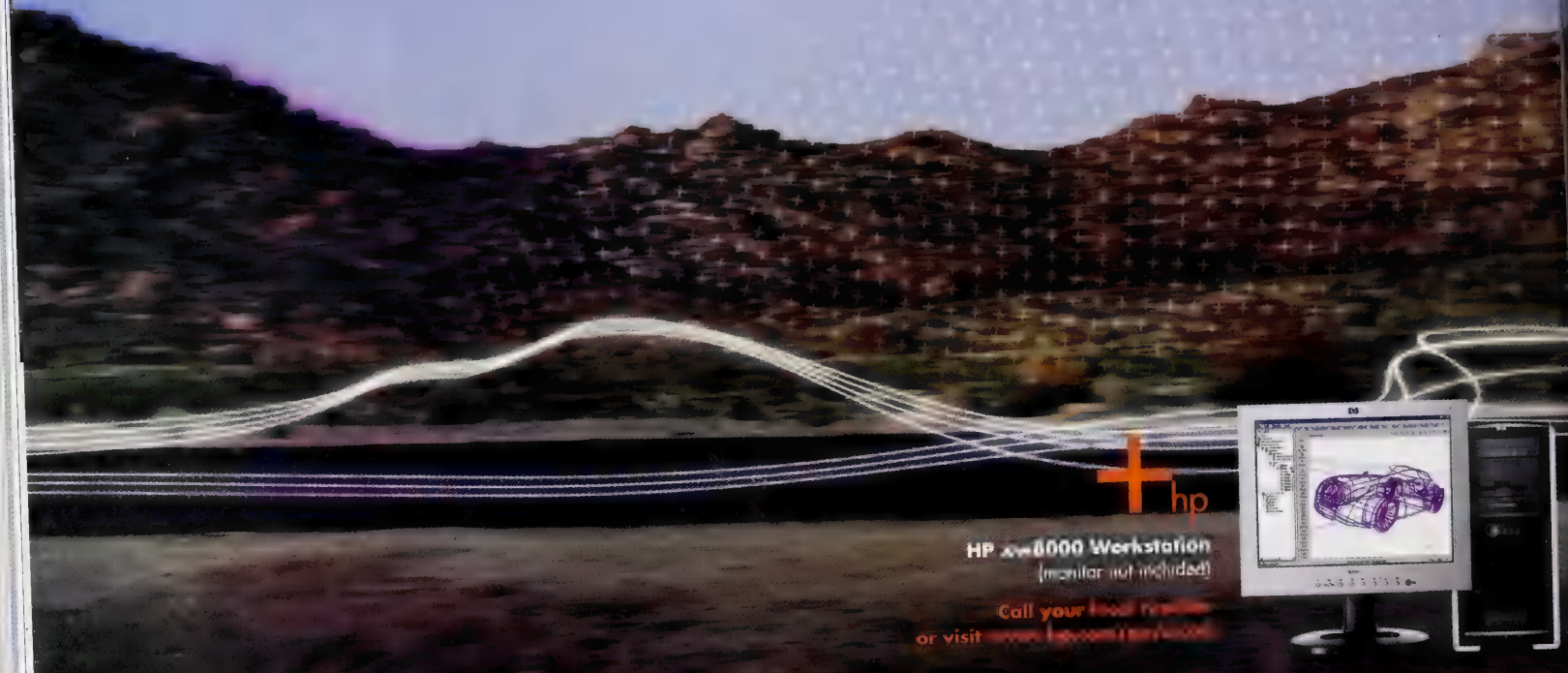
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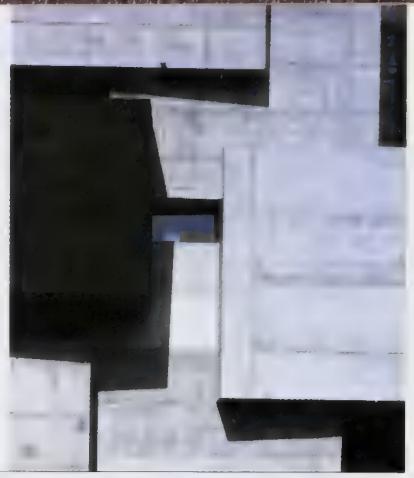
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ARCHITECTURAL RECORD

08.2003



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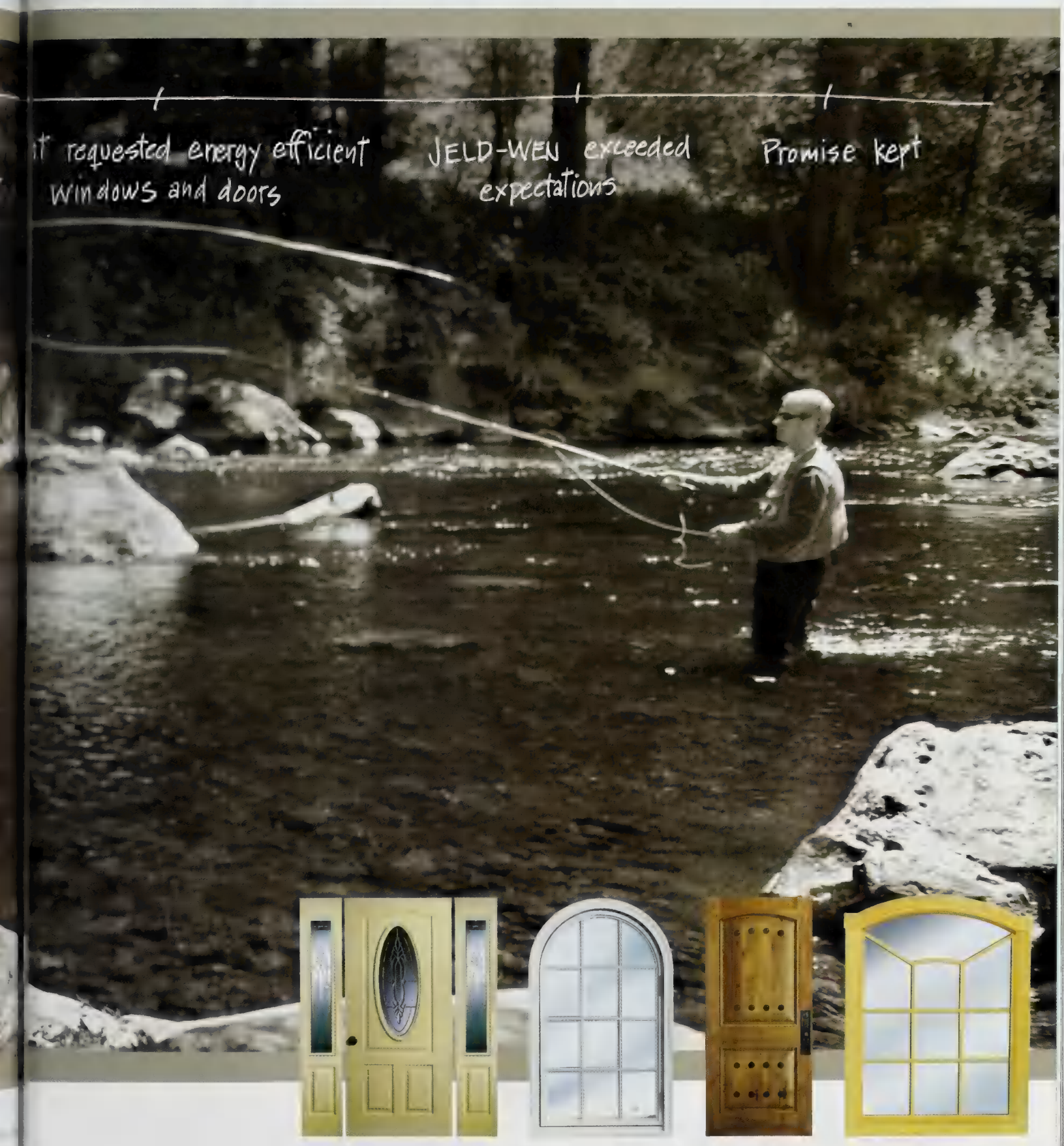
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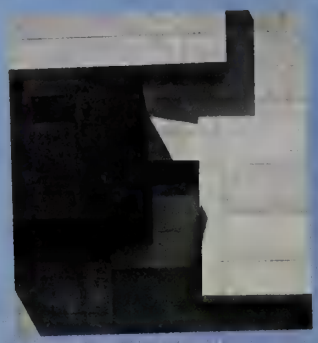
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A profile on the firm MinDay and their interesting partnership–one works from San Francisco and the other from Omaha. Go online to see more of their projects not featured in the magazine.
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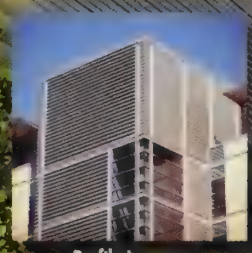
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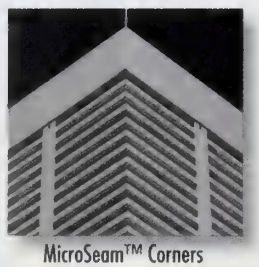
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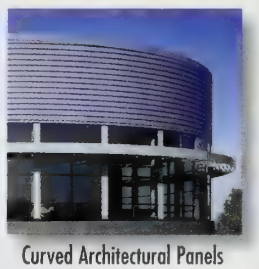
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An Open Letter to David Childs and Daniel Libeskind

Editorial

By Robert Ivy, FAIA

Now you've done it—cemented a relationship to design the first tower on the former World Trade Center site. We saw the reluctant look in your eyes as you accepted the inevitable and embraced in the photo-op; we saw the wary resolve and the lingering questions of what lay ahead for you both. We could tell it in your smiles: A forced marriage is never an easy one.

You need to know that every architect in this country—all 100,000 of us—stand behind you. Most architects worldwide join in wishing you two, and the groups that you represent, well. However, in the same breath, we're united in saying, "Don't mess this up."

You both will face skepticism, including cynicism from architects and the general public, that the dynamic forged in the original selection process has been subverted. Remember what has already happened: the hours of agonizing conceptual design, the hundreds of thousands of dollars spent by the LMDC and other teams of architects, the white-hot glare of the klieg lights focused on a choice. This choice. Despite the gaffes along the way, and the public repudiation of interim plans, Libeskind's plan emerged relatively unscathed.

With good reason. Daniel Libeskind captured something beyond mere building in his drawings. His first plans, presented at the Winter Garden in December 2002, caught the moment with a vertiginous edge, presenting a gritty, angular view of today's New York. Those first renderings, looming up from the Manhattan schist to asymmetrical high-rises, said something authentic about the people and the place with a dizzy energy. We recognized ourselves in those plans; you got it right.

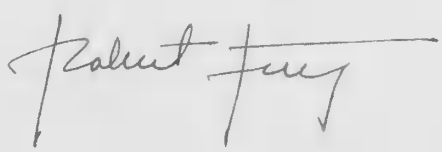
Outside pressure and events have already affected the outcome. No one can deny that the PATH station had to return to service, but subsequent requirements have reduced the plaza's depth from approximately 70 to 30 feet; the Gardens of the World, which originally seemed more conceptual than actual, evolved into an open tower. Further changes will be inevitable and may prove beneficial as the plans mature. However, any decisions that smack of expediency and threaten to compromise the force of the original must be rejected. That advice goes for the whole team, for your client, and for each of you individually.

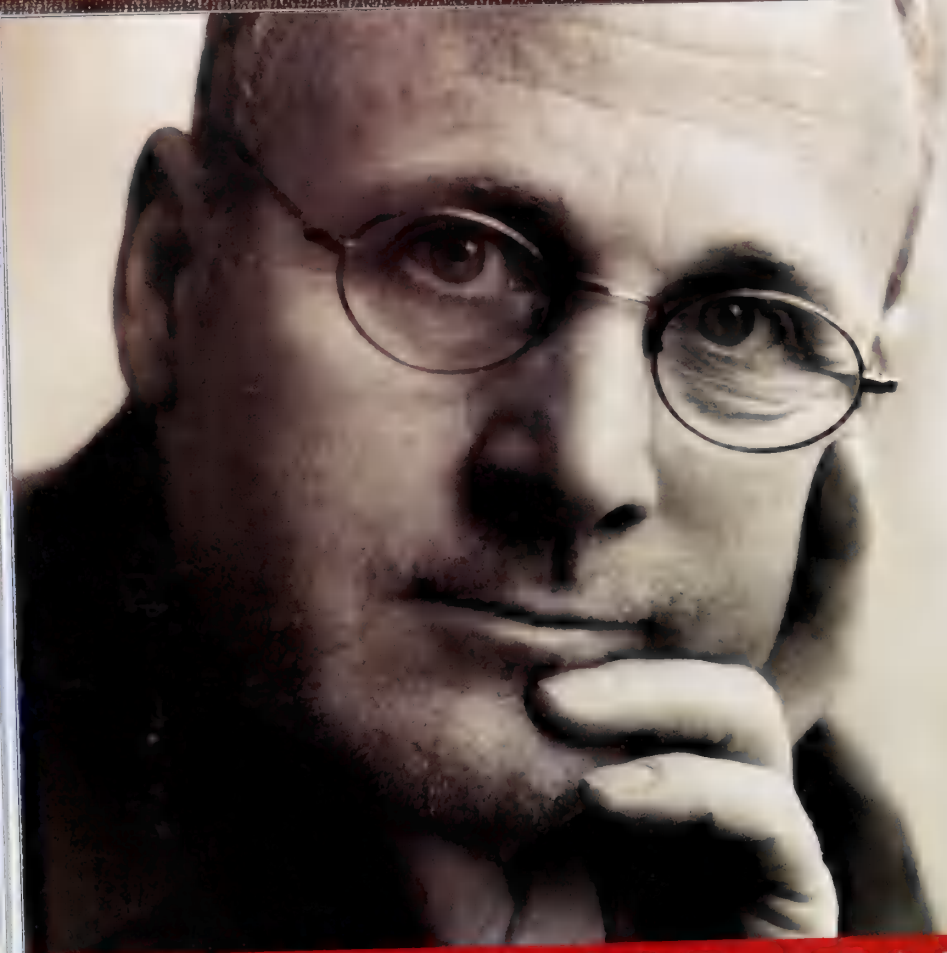
David Childs, you have engaged complex programs before, though never with this critical attention. The stewardship of such a prime site, if managed properly, can gain you immeasurable international admiration, orchestrating the Libeskind scheme through the rough days ahead. Cave in too quickly, allowing this site to become a commodified real estate deal, or lend too heavy a hand to work that has already lodged in the public consciousness, and you will have failed in all our eyes. If you keep the Libeskind vision intact—not allowing the client or political wrangling to blunt the edges—you may find greatness within your grasp.

Daniel Libeskind, do not surrender or weaken the ideas you have already forged. When you have presented your intentions for New York and the WTC site, those present have risen to their feet and applauded. You've been forced into a compromise marriage; keep December's triumph in mind as you proceed through the coming months.

Both of you will be tested. Your client, the developer Larry Silverstein, controls the purse strings. The Port Authority, a relentlessly pragmatic institution, owns the land. The Governor of the State of New York holds the political cards. But make no mistake. Ultimately, your client is the public, bound to this place and this process by an ethical trust that you both share. All of your fellow architects support you in your work as you begin the translation of a strong idea from two to three dimensions.

Here's your charge from all of us: Make it sing.

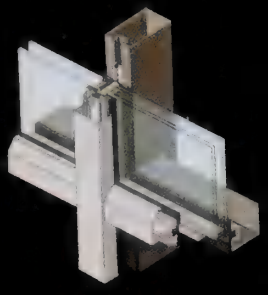




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Letters

Don't ignore the students

I am writing in response to an article about SCIArc written by Joseph Giovannini [Building Types Study, July, page 136]. Maybe Giovannini cannot find the entrance to the building downtown because he is too caught up trying to be critical instead of speaking with the students who make the school what it is. The article sounded more like an underhanded personal attack rather than a legitimate and interesting critique. Giovannini also lays out his "commentary" with no regard to the context of how the school fits into the downtown area. How many architecture schools would even attempt this move to downtown Los Angeles? How can someone who does not go to SCIArc tell me what the "programmatic concerns" are for such a unique school as this one?

By ignoring the students, Giovannini really has no sense about what the school or the building means. Maybe Giovannini should have asked Michael Sorkin what he thinks? His opinion would be much more educated, since he actually lectured at the school and then stayed around for dinner with the students. I invite Giovannini to come do the same. Students alter the building every year for thesis, so maybe Giovannini should come then, when the school and the building shine. My family and I have subscribed to RECORD for a very long time. I very much enjoy the magazine, especially archrecord2, but if you choose to attack SCIArc in your magazine again, please come do it in front of the students of the school. You will get a very educated and harsh response from a community that you should be supporting.

—Gavin Wall
Los Angeles

Geological rumblings

I thank you for the piece on the definitions of architecture in your June issue [Critique, page 61]. Always being on the lookout for new, pithy statements about our profession, your definitions intrigue me. Perhaps more apt than "Architecture is geology" in describing current trends is "Architecture is the appropriate synthesis of contemporary ideas to create space." This definition is applicable to centuries of architectural history, as well.

I am much more partial to Lou Kahn's aphorism "Architecture is the thoughtful making of space." A professor of mine took this in a slightly different direction and said, repeatedly, "Architecture is the thoughtful making of special place."

My own personal definition is in between all of these: "Architecture is the appropriate, thoughtful synthesis of ideas of global (universal) import applied in a(n) (il)logical manner and carried out in agonizing rigor to create space." A little long-winded, but you can probably tell that I haven't been around long enough to have really made up my mind.

Someday I plan on nailing it down, and after that I hope it changes on me many, many times.

—Christopher Hamer
Oak Park, Ill.

In his article "Architecture as geol-



Letters

ogy?" [June, page 61], Robert Campbell invited "other definitions" of architecture. Here is one: "Architecture is the art and science of being neither." It is not quite art and not quite science. It tries to combine drawing, painting, engineering, psychology, politics, economics, construction, and jurisprudence into an amorphous conglomerate, but it has a superficial knowledge of each of these components. Nowadays an architect is not a chief builder anymore but a design manager who coordinates the efforts of other professionals and accommodates various, often belligerent interests. The architectural aesthetics or, as I call it, "the cultural function" of architecture still belongs to the professional elite, which periodically changes its shibboleths like "geological," "holistic," "contextual," "timeless," "sustainable," or "green," or whatever they invent to break the mediocrity of the mainstream design that follows them. Psychologists call this phenomenon "aesthetic fatigue," which is also responsible for changes in other industries, like fashion. But this vacillation is not only inevitable but useful, because we instinctively imitate the great variety of natural species. Every time we remove plants and soil to build our structures, we feel their woeful inadequacy in comparison with the flexible, sustainable, and living structures of Mother Nature. This imitation may vary from a parachute to a rock, but both are necessary. So, for the elite, architecture is the art of inventing new images; for the rest of the profession, it is the art of interpreting them within specific constraints.

—Anatol Zukerman, AIA, BSA, Newton, Mass.

Multicolor malfeasance

I am writing in response to the historically informative article by John Calhoun pertaining to lighting the skyline (MetLife Tower) in the May issue [Lighting, page 316]. As a resident of the Lower East Side with a great view of the assorted collection of illuminated skyscrapers of the city, I would like to pose the question, "Why do we need to make Christmas ornaments out of architecture?" Not wanting to sound attached to the aesthetics of Feininger or Stieglitz, I wonder what is the attraction to the crass cult of disco building. Since when should a skyline be cute?

I am sickened with every incarnation of multicolor, "politically correct" lighting scenario that undermines the majesty of the city at night. There is an appropriateness, if not purity, in the neon color advertising that graces the heart of Times Square—there is an implied sense of festivity to the eclectic mosaic of Broadway—however, I fail to see the need to colorize towers in a way that cheapens, if not demystifies scale. The application of makeup, whether digitally or manually applied, makes big things small, denying them a sense of mystery that one equates with monochrome. Color should be a direct result of light reflecting material, not mascara projected on sandstone and glass for the viewing pleasure of a "feel good" quickie cult.

The black and white of the city is not an exercise in nostalgia. A sensitive use of pure light takes great architecture out of the realm of commonplace and elevates it to the level of otherworldly.

—Stephen Talasnik
Via e-mail

Corrections

July's review of the Milan Furniture Fair [page 217] should have said that the desk by Zanotta was introduced this year to commemorate the 30th anniversary of Carlo Mollino's death, not the 13th. In the June issue [Building Science, page 185], Andres Prera of Hellmuth + Bicknese Architects should have been credited for the photomontage on page 188.

Send mail to rivy@mcgraw-hill.com.



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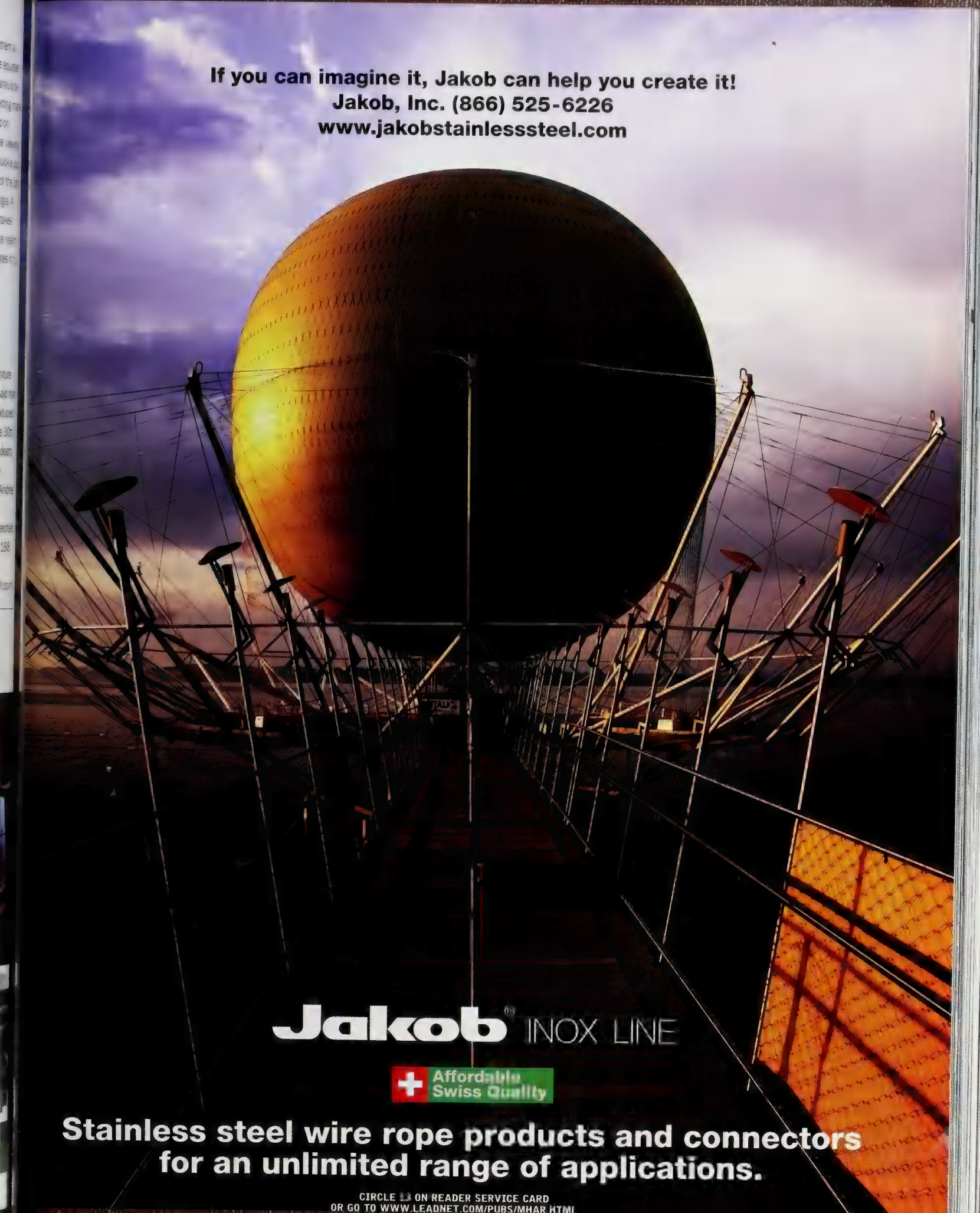
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Record News

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Libeskind and Silverstein reach an agreement for WTC site

Studio Daniel Libeskind and Larry Silverstein, the developer who holds the lease for commercial space at the World Trade Center site, reached an agreement on July 16 about Libeskind's role in the design of the 1,776-foot tower that will anchor the site. According to the agreement, David M. Childs of Skidmore, Owings & Merrill will serve as the design architect and project manager for the office building, which the Lower Manhattan Development Corporation (LMDC) bills as the world's tallest.



David Childs, Daniel Libeskind, and Larry Silverstein (from left) joined LMDC and Port Authority officials to affirm their agreement.

Libeskind, whose master plan for the site was selected by the LMDC, will collaborate with Childs during the concept and schematic design processes and will be a full member of the project team.

Critics of Silverstein had worried that the developer would exercise his right to put up a building without regard to Libeskind's design. Others worried about Libeskind's lack of experience in designing tall buildings. *The New York Times* reported that the agreement came under pressure from LMDC officials who have been ordered by Governor George Pataki of New York to adhere to a strict rebuilding time line. Libeskind has placed the skyscraper, known as the Freedom Tower, in the northwest corner of the site, at the end of an ascending spiral of buildings. Silverstein reportedly wants the tower closer to the proposed transit hub at the northeast corner.

Libeskind's renderings also place two of the shorter office buildings in the spiral on land that is not owned by the Port Authority of New York and New Jersey, which owns the site of the World Trade Center. The *Times* reported that the Port Authority is pursuing those sites. One is the former location of a Greek Orthodox church that was destroyed when the towers fell; the Deutsche Bank building, recently declared unsalvageable, occupies the other. The off-site land would be essential to fulfilling the original spiral proposal and would also relieve some of the burden of restoring the 10 million square feet of office space that was lost, as Silverstein has said he intends to do.



Towers (far right) mark the new PATH station.

Meanwhile, the Port Authority has built the first new aboveground structures at the site. Two trusswork towers have risen at the northeast corner of the site, marking the entrance to a temporary station for the PATH train to New Jersey.

The LMDC also announced that 5,200 teams or individuals entered its open competition to design the memorial for the site. A winner will be selected in the fall. *Kevin Lerner*

Dean changes lead to discontent at Columbia and U. of Tennessee

University of Tennessee

Marleen K. Davis, dean of the School of Architecture and Design at the University of Tennessee, was asked to step down in June by the university chancellor, who pointed to her budgetary mismanagement and uneven hiring practices. But several architects and students are protesting the decision, claiming that the move is unjustified and that Davis had been doing a superb job.

Newly named University of Tennessee chancellor Loren Crabtree says he sought the move, announced June 30, because Davis, who has been dean for nine years, ran up expenditures of more than $677,847 since 1999. Crabtree also claimed that the procedures for hiring, promotion, and tenure under Davis had been "somewhat irregular." Said Crabtree: "The process has had problems. You need to assess the candidates' records without bias."

Several professors and architects, as well as students, at the university are up in arms about the decision. Many say the College of Architecture and Design has flourished under Davis, and that the reasons given for her dismissal aren't fair. A group of students has started a Web site dedicated to Davis's cause; it can be found at www.keepdeandavis.com.

Columbia University

Former Columbia University School of Architecture dean Bernard Tschumi, who stepped down in June, does not appear completely happy with the selection criteria for his replacement. He recently asserted that the new dean's selection committee was putting too much emphasis on the acquisition of a marquee name.

"They looked more for people that had some name recognition, which I think is not a criterion for the job," said Tschumi, who left the post to pursue other career interests full time. "The job demands a fair amount of hard work and not just a signature, figurehead name."



A sign of protest at the University of Tennessee.

The 11-member committee to select a new dean was headed by former Columbia provost Jonathan Cole, who stepped down on July 1. A new head has not been named. Final dean selection will be made by President Lee Bollinger. *Sam Lubell*

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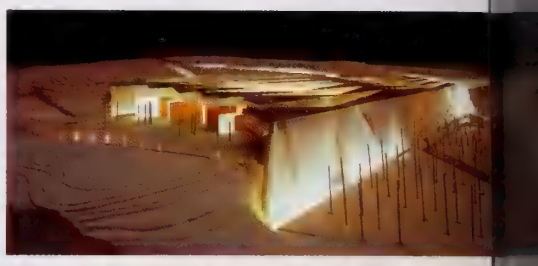


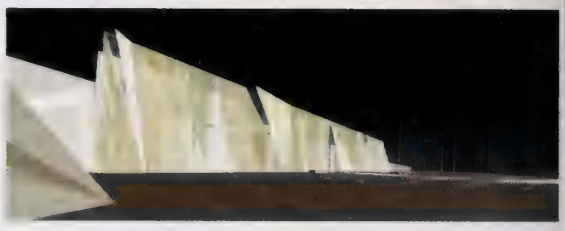
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Record News

Grand Museum of Egypt design goes to heneghan.peng.architects





Plan for the Grand Museum of Egypt.

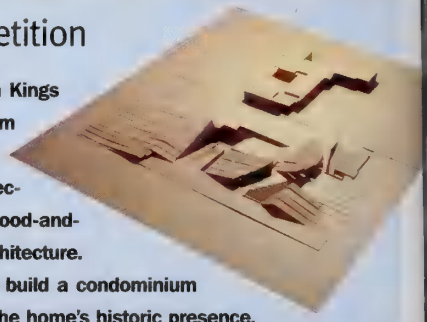
The firm heneghan.peng.architects has won the international architectural competition to design the Grand Museum of Egypt. The museum will be located between the city of Cairo and the outlying ancient pyramids. With a gross total budget of $350 million, the museum complex is expected to attract at least 3 million visitors each year. There is no assigned date of completion.

The jury praised the architects' interpretation of the desert's topography and the design's "simple elegance" and "refined expressive qualities." As the architects note in their project description: "The museum traces a new profile for the plateau without competing with the pyramids." Structural folds in the museum's roof extend the line of the site's plateau, while a translucent stone wall opens the museum up to the pyramids. The proposal demonstrates the use of light to sculpt and separate the different elevations of the building into three "bands"—the lower plateau, the museum level, and the upper plateau. A piazza/sculpture court completes the scheme.

In 1992, Egyptian President Hosny Mubarak set aside a plot of land for the museum. An international crew of scholars and experts studied how to develop a museum that would house the world's largest collection of Egyptian artifacts. Two years ago, a group including UNESCO and UIA began work on the competition brief, outlining a complex that would include exhibition galleries, conservation workshops, and archaeological storage space.

The competition attracted 1,557 entries from 83 countries. Teams led by Coop Himmelb(l)au and Renato Rizzi won second and third prizes, respectively. Heneghan.peng.architects were established in New York in 1999 and relocated to Dublin two years later after winning the international architectural competition for the Kildare Civic Offices in Ireland. *Diana Lind*

Schindler house dispute spurs a competition



A dispute between R.M. Schindler's famed studio-residence on Kings Road in West Hollywood, California, and a proposed condominium project next door has resulted in a design competition. The single-level, 2,500-square-foot house, built in 1922, is widely recognized as a landmark of early Modern architecture. Today, the wood-and-glass building houses the offices of the MAK Center for Art + Architecture.

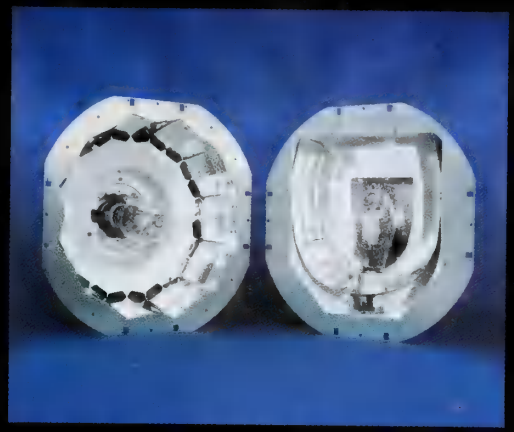
When a developer recently purchased the adjacent lot to build a condominium complex, the MAK Center worried that the project could blight the home's historic presence. Unable to raise the $2.8 million needed to buy the 20,000-square-foot property, the MAK Center launched a competition. As such, 20 architects were invited to submit an alternate vision for the adjoining parcel.

Submissions came from Coop Himmelb(l)au, Mark Mack Architects, Eric Owen Moss Architects, Dominique Perrault, Michael Maltzan, and RoTo Architects, among others. In June, a jury led by Frank Gehry, FAIA, selected proposals from Odile Decq + Benoit Cornette, Peter Eisenman (proposed design shown above), and Zaha Hadid Architects as the joint winners.

Although no money exists to build any of the schemes, which range from garden galleries (Eisenman) to a 21-story apartment tower (Hadid), the MAK Center plans to hold an exhibition of the entries in August. A grass-roots effort has since begun to preserve the adjoining property, getting it registered as a historic landmark. Meanwhile, the three-story, 28,000-square-foot condominium complex, designed by Lorcan O'Herlihy, a Schindlerlike stylist himself, is slated to break ground in December. ***Tony Illia***

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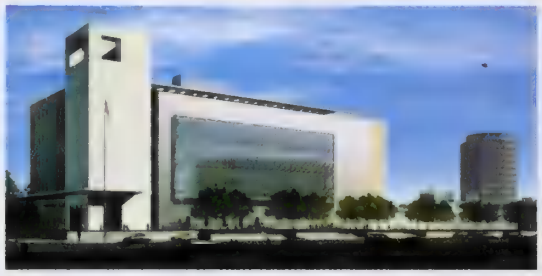
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Controversy ends—Orlando Federal Courthouse back on track

Two years ago, it looked like Congress might pull $60 million in funding from a federal courthouse project in Orlando after a feud broke out between the judges who were to work in the building and the General Services Administration. Now the project is back on track and speeding toward completion.



The design for the Orlando Federal Courthouse.

The controversy started in 1998, when two judges objected to the procedures used to select Leers Weinzapfel Associates, Boston, as the project's architect. After much legal wrangling, a second panel again selected the firm. But by then the cooperative spirit essential to getting the courthouse designed had been broken. The judges, who were now among those acting as clients on the project, and others in the community, vehemently criticized Leers Weinzapfel's original four-story design, objecting to the amount of glass in the proposed building's facade; courtroom size; location; acoustics; and security features. The GSA defended the design.

To save the project, negotiations were held between the building's future users and the GSA. These led to a second design. Leers Weinzapfel reshaped the building so that "it's much more solid and compact." The glass facade disappeared, and a bell tower, said to be inspired by one attached to a U.S. Post Office in Orlando, was added. A park, designed by landscape architect Dan Kiley, a parking deck, and a link to an existing building were added to the program so the entire block where the courthouse is to be sited will one day work as a continuous courts complex. *Charles Linn*

Peabody Essex Museum adopts an old Chinese house

The Peabody Essex Museum (PEM) in Salem, Massachusetts, recently concluded a $150+ million transformation featuring a new wing by Moshe Safdie and the installation of Yin Yu Tang, the only complete Qing Dynasty house outside of China. The total project generated 250,000 square feet of new and renovated space, representing "a fundamental remaking of the institution," says Dan Monroe, executive director of the museum.





The Yin Yu Tang house at the Peabody Essex Museum.

PEM's new 111,000-square-foot wing integrates the museum's 24 historic buildings with other existing structures. Safdie's design features a soaring glass roof covering an indoor street and atrium lined with brick- and sandstone-clad gallery pavilions.

A highlight of the museum's transformation is Yin Yu Tang, a Chinese merchant's house built c. 1800–25 in the Anhui style. Moved from the Huizhou region of southeast China, the 4,500-square-foot structure was the ancestral home of the Huang family. It is constructed of wooden post-and-beam framework surrounded by a stone and brick curtain wall and covered with lime plaster.

By the 1980s, no family members were living in the house, and the Huangs decided they could not keep it. The museum first learned of the house in 1996, and the following year an agreement was reached with the Xiuning County Cultural Administration to dismantle the residence and move it to PEM.

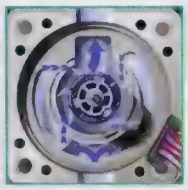
A team of Chinese artisans consulted on the house's reerection, working with project architects John G. Waite Associates and construction managers and general contractors Liberty Street Restoration Company. New materials were integrated with the old, then finished to preserve the building's original character. *Debra Pickrel*

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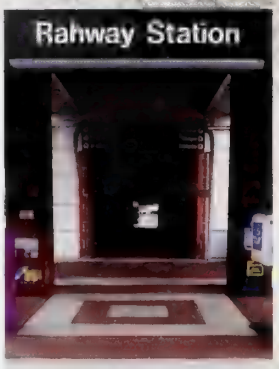
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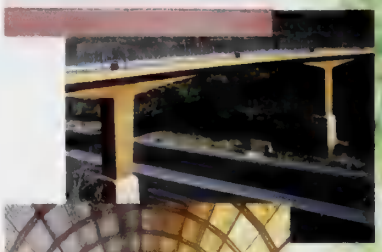
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Guggenheim Rio's future threatened by public outcry

The planned Guggenheim Museum in Rio de Janeiro, Brazil, faces a court challenge, threatening the project's future. A Brazilian court blocked construction of the 240,000-square-foot building, designed by Parisian architect Jean Nouvel, in late June following a public outcry that the $250 million museum was an unaffordable luxury for a city racked by poverty.

On April 30, the city of Rio de Janeiro penned an agreement with the Solomon R. Guggenheim Foundation, New York, to build a new museum on Maua Pier in Guanabara Bay near Rio's business district. Under the terms of the deal, Rio would finance the museum's construction as well as its operating expenses and exhibitions. In exchange, the Guggenheim would lend its name, artwork, and curatorial expertise to the venue for $28.5 million in licensing fees.

Although the museum is viewed as a key catalyst to revitalizing Rio's deteriorating waterfront, many of the city's 14 million residents feel the money could be better spent fighting crime or improving health care.

Court officials say the deal signed between the city and the Guggenheim isn't valid because it's based on U.S. rather than Brazilian laws and valued in dollars as opposed to reals (Brazil's national currency). They also said no first payment would be made to Nouvel, who was to receive $12 million.

"It's a very complicated and tense situation," said Nouvel. "But we are still moving forward, because nobody has told us to stop working."

The museum, much of which will be built underwater, calls for theaters, multimedia facilities, galleries, a restaurant, a retail store, and tropical gardens. Scheduled to open in 2006, the Guggenheim in Rio would be the sixth operated by the Guggenheim Foundation, including those in New York, Venice, Bilbao, Berlin, and Las Vegas. *T.I.*



Jean Nouvel's plans for the Guggenheim in Rio de Janeiro.



Bunshaft's Emhart Building to be demolished

The Emhart Corporation building designed by Gordon Bunshaft of Skidmore, Owings & Merrill in 1963—a concrete and glass office and research building for a glass manufacturing equipment company, is slated for demolition this year by the CIGNA company. Emhart, part of the 300-acre Connecticut General Insurance company's 1956 suburban corporate campus acclaimed for the Wilde Building, also by Bunshaft—with Isamu Noguchi sculpture gardens and Florence Knoll interiors—will be developed for a golf course and a residential complex.

Emhart, an intriguing and experimental structure marking Bunshaft's initial work with engineer Paul Weidlinger, comprises a grid of tree-shaped, massive concrete columns with four diagonal branches supporting a concrete slab around two main volumes—an enclosed, two-story, black-box research laboratory and an interior courtyard open to the sky.

The second floor glazed office volume is recessed 3 feet from a concrete frame to provide shade for the offices and a ledge for cleaning the dark gray glass windows. A short pipe column rises from the concrete columns of the frame to support the roof beam that is covered with hinge-shaped sheets of stainless steel. This innovative pin element emphasizes the lightness of the roof in contrast to the concrete, in a true play of form and structure, which seems to take flight in the landscape.

It is ironic that this remarkable building, now deemed obsolete, could have provided office and laboratory space for contemporary high-tech industries. As architect Tyler Smith of Hartford, Connecticut, who organized the nonprofit Save Connecticut General in 2000 said, "Emhart could have been incorporated into the new development as a conference center or clubhouse." The Wilde Building, which still houses CIGNA employees, may yet be transformed for a new use. ***Nina Rappaport***

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Record News

Smithsonian's National Design Awards 2003 honors architects

The Smithsonian's Cooper Hewitt, National Design Museum will host its fourth annual National Design Awards on October 22 in the museum's headquarters at 2 East 91st Street in New York City. The $1,000-per-person gala benefits the museum and will feature lifetime achievement awards for I.M. Pei, of Pei, Cobb, Freed & Partners, and Lella and Massimo Vignelli, of Vignelli Associates.

The awards event, expected to draw 550 people, honors the most outstanding contributions in American design. The awards began in 2000 as an official project of the White House Millennium Council, a program established to promote creative and innovative cultural projects in the U.S. Presidential involvement continues, with Laura Bush holding the position of this year's Honorary Patron.



I.M. Pei.

Award categories include lifetime achievement, corporate achievement, architecture, communications, environment, product, and fashion, a new category this year.

"Without fashion, we were really lacking an important element of design," said awards director Buff Kavelman. "It's a very vibrant aspect of design in the country, and one of the fields that the public thinks about first."

This year's jury is made up of architects and designers such as Rafael Viñoly; John Hoke III, global creative director of footwear design for Nike; Christopher Bangle, director of design at BMW; and interior designer DD Allen.

The selection process was intense: The jury received more than 300 nominations, solicited from a committee of more than 700 leading designers, educators, journalists, cultural figures, and corporate leaders.

Mr. Pei and Lella and Massimo Vignelli were selected by the jury to win lifetime achievement awards for their outstanding service to the design field. Pei won a Pritzker Prize in 1983 and is renowned for such projects as the Bank of China Tower in Hong Kong and the Pyramide du Louvre in Paris, among many others.

Lella and Massimo Vignelli lead Vignelli Associates, a New York design firm whose products include packaging design, interior design, architectural graphics, and corporate identity. The Vignellis have acted as longtime graphic consultants to



Lella and Massimo Vignelli.

ARCHITECTURAL RECORD, redesigning the magazine in 1982 and again in 1991.

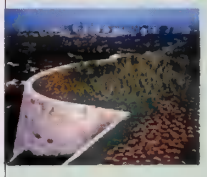
The finalists for the excellence in architecture award are Architecture Research Office, which recently designed the Armed Services Recruiting Station in New York City's Times Square; Frederick Schwartz, architect of the Goldman House in East Hampton, New York; and Billie Tsien and Tod Williams, creators of the Museum of American Folk Art in New York City.

"There's a great range of talents and specialties," said Kavelman of the architecture finalists. "One strength they all share is that they are all community-minded architects who have done important work for the field and for the communities they are in." *S.L.*

ASLA Awards

The American Society of Landscape Architects (ASLA) has announced the recipients of its 2003 awards programs. A nine-member jury led by Carol Mayer-Reed, FSLA, a principle at Portland, Oregon–based Mayer/Reed, selected only 33 projects out of 436 entries to receive awards. Philadelphia's Olin Partnership garnered four awards, including the landmark prize for New York's Battery Park City's master plan and esplanade, and the J. Paul Getty Center in Los Angeles (left). The Sausalito, California–based SWA Group netted three awards, among them a design excellence nod for Fidelity Investment's Corporate Campus in Westlake, Texas. A formal awards presentation will take place at the ASLA's annual meeting, held October 30 through November 3 in New Orleans. ***T.I.***





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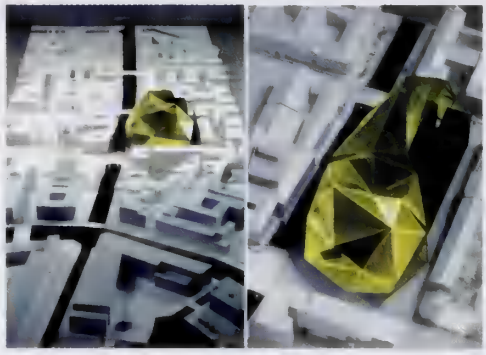


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News Briefs



Perrault's design for the Mariinsky Theater.

Perrault in St. Petersburg Dominique Perrault has won an architectural competition to design a new 2,000-seat building for the Mariinsky Theater in St. Petersburg, Russia.

Perrault's design beat 10 other entries, including submissions by Hans Hollein and Mario Botta, among others. The plan calls for covering the new marble building in a veil of glass containing gold-colored anodized aluminum strips "presenting the theater as a beautiful instrument for the Mariinsky's performances, but also to intertwine with the city's historic fabric."

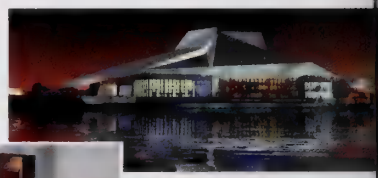
The new building will increase the space available at the Mariinsky by 127,953 square feet. Although final costs haven't been disclosed, the building will receive $100-to-120 million in state funding and could be open by 2008. *T.I.*

Changes at Edinburgh's Royal Botanic Gardens Edward Cullinan Architects has won an architectural competition to design a new visitor facility at the Royal Botanic Gardens in Edinburgh, Scotland. The competition, conducted by the Royal Incorporation of Architects in Scotland, elicited 60 entries from throughout Europe. London-based Edward Cullinan topped a shortlist that included Hopkins Architects, Wilkinson Eyre, and Richard Murphy Architects. The garden, which is the third-most-visited attraction in Edinburgh, occupies more than 72 acres and is home to more than 15,500 plant species. *T.I.*



The garden occupies over 72 acres.

A new arts center for Tempe Barton Myers & Associates of Westwood, California, and Architekton of Tempe, Arizona, have announced a September ground breaking for a new visual and performing arts center, the Tempe Center for the Arts.





Tempe's Center for the Arts will include two theaters, a gallery, and a multipurpose room.

The $63 million complex, slated for completion in spring 2006, is to include a 600-seat main theater, a 200-seat studio theater, a 3,500-square-foot gallery, and a multipurpose room. The design also includes a 24-acre public park to be built and funded by the city of Tempe.

The arts center will be sheltered by an extensive concrete roof system intended to eliminate aircraft noise in the interior spaces. The design also incorporates artwork by artists Ned Kahn, Ramona Sakiestewa, Mayme Kratz, and Mark Ryan. *T.I.*

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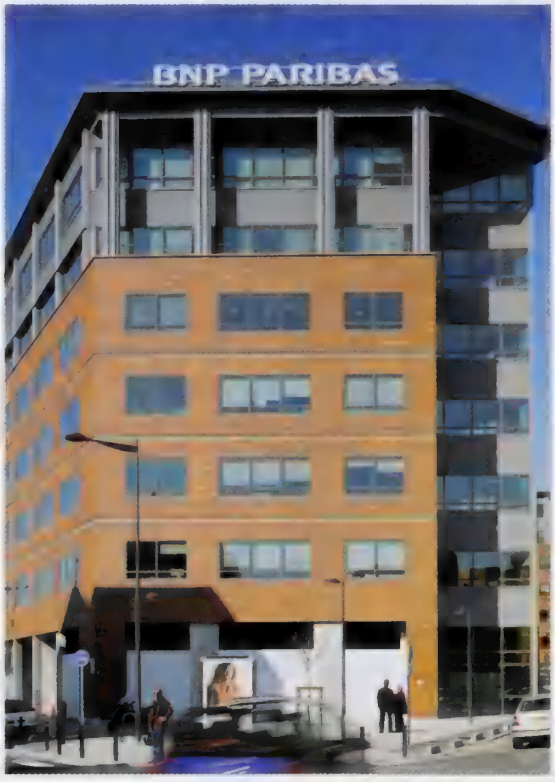
Palmetto Elementary School, Orlando, Florida
Architect: Reynolds, Smith and Hills Inc.
Glazing Contractor: NR Windows, Inc.

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BNP PARIBAS Bank Building, Montreuil-Paris, France
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News Briefs

Five new bridges for Chicago

Chicago is renowned for its 30-mile chain of lakefront parks, but the highway known as Lake Shore Drive raises a formidable barrier between the city and Lake Michigan. On the city's south shoreline, commuter railroad tracks compound the problem, creating a barrier several hundred feet wide. Now, to improve access for pedestrians, cyclists, and people in wheelchairs, Chicago is holding a design competition for five pedestrian bridges on the lakefront.

Twenty-three architects have entered, including Murphy/Jahn, the Richard Rogers Partnership, and Wilkinson Eyre Architects. Santiago Calatrava, who met with Mayor Richard M. Daley of Chicago last year and was invited to enter the competition, was the most prominent no-show. Chicago officials previously had shelved one of Calatrava's designs, a pair of pedestrian bridges linking the city's Buckingham Fountain to the lakefront.

The bridges are expected to cost $10 million to $15 million apiece. Construction funding still has to be secured. Three of the bridges are to be built along the city's south lakefront. Another is to replace the aging North Avenue Bridge on the north lakefront, while the last is to be a movable bridge across the Chicago River.

City officials expect to parcel out the work among different architects rather than picking a single winner. The winning firms, which will team with engineers that have been prequalified by the city, are to be named by year's end. *B.K.*

Gehry and Newman at UConn

As part of the $1.3 billion 21st Century UConn program, the University of Connecticut has hired architects Frank Gehry and Herbert S. Newman to design a new building for its School of Fine Arts. The architectural contest drew proposals from more than 50 architects and was whittled down to three finalists: the Gehry/Newman team, Zaha Hadid, and Mack Scogin Merrill Elam.

The winning design is expected to cover 185,000 square feet and to combine Gehry's metal roofing and curved walls with Newman's neotraditionalist style. The $70 million project will house several theaters, a puppetry museum, concert halls, galleries, and dance and art studios. According to David Woods, dean of UConn's School of Fine Arts, the building will be completed by 2006. *D.L.*



UConn's School of Fine Arts, by Gehry/Newman.

Neues Museum restoration

A $270 million restoration of the Neues Museum (New Museum) in Berlin broke ground in late June. London architect David Chipperfield and restorer Julian Harrap were commissioned to rebuild the famed museum, which was battered in World War II and ignored during the cold war. The British duo reportedly plans to build upon the existing historic core of the museum, an exhibition hall built by Friedrich August Stüler between 1843 and 1855, preserving the remains of its wall and ceiling frescoes and giving it a modern finish.



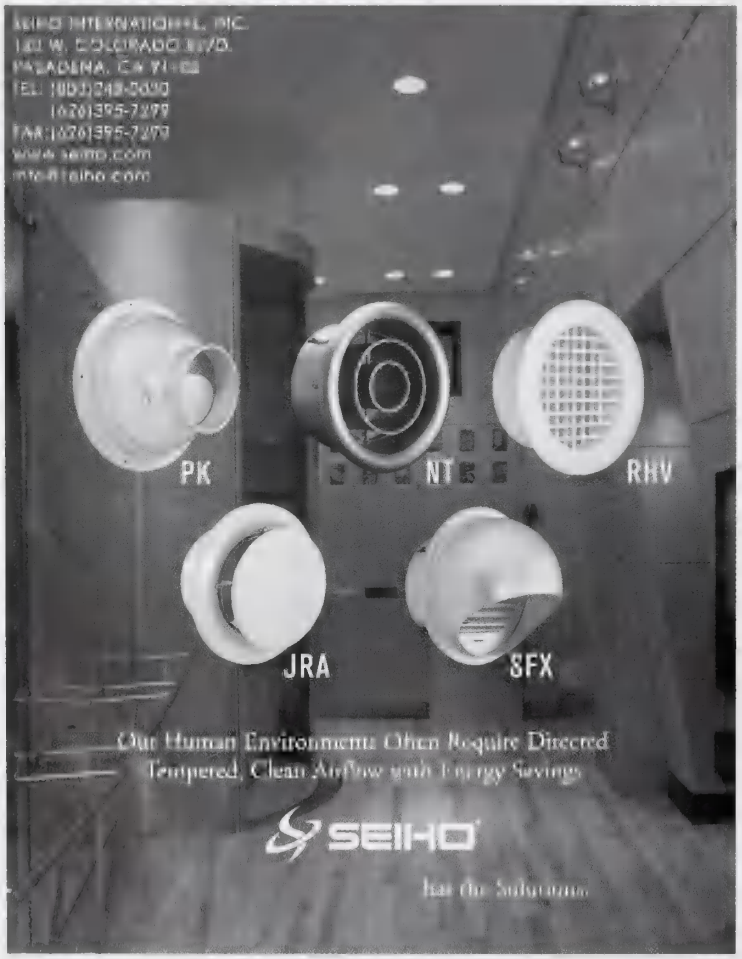
The Neues Museum's exhibition hall plan.

Work is expected to be completed by 2008, after which the Neues Museum will house the Egyptian Museum, the Museum for Prehistoric and Early History, and an extensive antiques collection. *T.I.*


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News Briefs

National Building Museum gets a new president The National Building Museum's (NBM) board of trustees appointed Chase W. Rynd as its new president. Rynd's prior positions as executive director of both the Frist Center for Visual Arts in Nashville and the Tacoma Art Museum have made him a nationally recognized leader in the museum profession. As NBM president, Rynd will head planning and development to establish the museum as a leader in the field by increasing its role in the public dialogue about building and architecture. Rynd's post is effective September 2, 2003. *Randi Greenberg*

Krueck to design a new cultural center in Chicago In the first test of whether a contemporary building will be allowed under the design guidelines that govern Chicago's new Michigan Avenue historic district, the Spertus Institute of Jewish Studies has announced that it will build a new cultural center, designed by Chicago architect Ron Krueck, in the district. Many Chicago architects criticized the guidelines, saying they would produce timid buildings in the cliffhike, 11-block ensemble across from Grant Park. City officials maintain, however, that the guidelines will allow for creative solutions.

Krueck, a Modernist, will shape a 10- to 12-story building on a vacant lot just north of Spertus's current home. Scheduled to open in 2006, the $40 million building will seek to create a sense of interaction between Spertus's museum, college, and library. *Blair Kamin*

Doug Michels dead at 59 Doug Michels, architect, artist, and cofounder of the Ant Farm design group, fell to his death on June 12 while climbing alone to a whale observation point in Eden Bay, Australia. He was 59.

Michels, a graduate of the Yale University School of Architecture and recipient of three Progressive Architecture design awards, envisioned an "underground" design method with fellow architect Chip Lord, and appropriately named their design group Ant Farm. The group's most recognizable project, the *Cadillac Ranch* sculpture in Amarillo, Texas (1974), consists of 10 Cadillacs in a row jutting out of the ground. *Caroline Mitgang*



Doug Michels.



Site of new Spertus facility.

Libeskind's new house not his own design Daniel Libeskind has contracted Alexander Gorlin Architects to renovate a loft in New York's Tribeca for him and his wife (and business partner) Nina, and their daughter. Asked why he didn't want to design his own living accommodations, Libeskind rejoined, "Does a barber cut his own hair?" Although this architectural haircut may be more straightforward than the spiky sort the distinctly avant-garde Libeskind might have come up with, the 2,100-square-foot loft does have a triangular floor plan. And it is within walking distance of the World Trade Center site, which allows Libeskind to keep an eye out for change orders being made by his new best friends in the building process, Larry Silverstein and Skidmore, Owings & Merrill's David Childs. *Suzanne Stephens*

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Dates & Events

New & Upcoming Exhibitions

Solos: SmartWrap
New York City
August 5–October 10, 2003
The first show in a new series, *SmartWrap* features a pavilion by the Philadelphia architecture firm Kieran Timberlake Associates in the Cooper Hewitt Museum's Arthur Ross Terrace and Garden. SmartWrap is a concept for a customizable building material that would incorporate a building's facade as well as emerging technologies in heating, lighting, and solar energy. At Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.si.edu/ndm.

A Tribute to Preserving Schindler's Paradise
Los Angeles
August 6–31, 2003
In initiating this project, it has been the hope of the MAK Center to highlight the role context plays in historic preservation. As cities grow up around some of our most important buildings, can we maintain the situations in which they were first experienced? Project proposals for an ideal neighboring plan for the landmark Schindler House have been selected and will be on view at the house. Call 323/651-1510 or visit www.makcenter.org.

Absence Into Presence
New York City
September 3–October 3, 2003
An exhibition showcasing the art, architecture, and design of remembrance. The exhibition will look at works of funerary architecture; demonstrate how great architects have used the memorial genre to develop their own talents and theories; examine the difficulty of memorializing an event as complex and unfathomable as the Holocaust; and consider a range of aesthetic, cultural, and political issues that impact the process of remembrance. In the Arnold and Sheila Aronson Galleries at Parsons School of Design. Call 212/229-8987 or visit www.newschool.edu.

Up, Down, Across: Elevators, Escalators, and Moving Sidewalks
Washington, D.C.
September 12, 2003–April 18, 2004
The exhibition will explore how these ubiquitous technologies have transformed our buildings, our cities, and our lives. Though these devices are mundane by virtue of our familiarity with their daily uses, *Up, Down, Across* brings to light the enormous impact they have on architecture and movement throughout the world. For further information, call 202/272-2448 or visit www.nbm.org.

Ongoing Exhibitions

Of Our Time: 2002 GSA Design Awards Show
Washington, D.C.
March 27–October 19, 2003
Through models, drawings, and photographs, this exhibition documents the 24 public projects that received the design award honor last



year. The projects demonstrate how regional heritage can be integrated with the latest building technology to create dynamic, functional, and attractive structures, spaces, and artworks for the 21st century. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org for more information.

National Design Triennial 2003: Inside Design Now
New York City
April 22, 2003–January 25, 2004

The Triennial is a review of cutting-edge trends and future horizons in the fields of design practice, from architecture, interiors, and landscape design to product design, graphic design, fashion, and new media. At the Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.si.edu/ndm.

Traces of India: Changing Views of the Monuments of a Subcontinent
Montreal
May 15–September 14, 2003

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The exhibition will present more than 200 master photographs taken by travelers, military surveyors, and professional photographers within the context of the British colonial era, exploring some of the greatest architectural sites of the Indian subcontinent. At the Canadian Centre for Architecture. Call 514/939-7000 or visit www.cca.qc.ca for further information.

Fragile Jewels of India: Preserving an Extraordinary Architectural Heritage
New York City
May 29–September 10, 2003
The show focuses on Jaisalmer, the legendary Golden Fort of the Rajasthan desert, and also features other historic and endangered sites and cities. Through architectural details, archival and contemporary photographs, textiles, tools, and crafts, the exhibition explores the historic architecture and conservation of many sites. At the World Monuments Fund Gallery. For more information, call 646/424-9594 or visit www.worldmonuments.org.

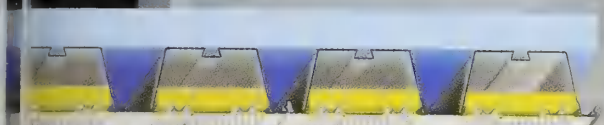
Katie Grinnan: Adventures in Delusional Idealism
New York City
July 24, 2003–January 4, 2004
Evoking contained, self-sustaining ecosystems and utopian communities, Grinnan uses moldable plastic and computer-altered images of corporate spaces to create large-scale photo sculptures and installations that envelop the architecture of the Whitney Museum at the Altria Sculpture Court on 42nd Street. Call 917/663-2453 or visit www.whitney.org.

Celebrating Saint Petersburg
New York City
June 11, 2003–January 25, 2004
Reflecting the splendor and cosmopolitan culture of the czarist court, the selection of approximately 75 objects, dating from about 1700 to the early 20th century, includes exquisitely crafted furniture, silver, porcelain, jewelry, and other luxury items of Russian, as well as French, English, Swiss, and German manufacture. At the Metropolitan Museum of Art. Visit www.metmuseum.org or call 212/535-7710.

Pere Noguera: Lands
Barcelona
Through August 31, 2003
A poetic reflection on the design of elements of earth used in architecture, in the home, for domestic utensils, for furniture, decoration, the garden, and everything that surrounds us. At the Ceramics Museum, as part of the Year of Design 2003. Visit www.designyear2003.org.

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Dates & Events

Lectures, Conferences, Symposia

Repairing the American Metropolis
Washington, D.C.
August 11, 2003
In a discussion of the economic, social, and architectural costs of sprawl, Douglas Kelbaugh, FAIA, dean of the Taubman College of Architecture and Urban Planning at the University of Michigan, will present alternatives to conventional suburban development and proposals for urban redevelopment. In addition, he will describe the differences and commonalities that can be found among Urbanism, New Urbanism, and Post-Urbanism. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Stanley Saitowitz
Washington, D.C.
August 14, 2003
Principal of the San Francisco–based firm Natoma Architects, Saitowitz will discuss his work, including early projects in his native South Africa. His portfolio includes the Yerba Buena Lofts in San Francisco, Oxbow Art School in Napa, and a new school of architecture for the University of Waterloo in Canada. Saitowitz received the AIA's 1998 Henry Bacon Award for Memorial Architecture for the New England Holocaust Memorial in Boston, and his Transvaal House was named a National Monument by the National Monuments Council of South Africa. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

D.C. Builds
Washington, D.C.
August 27, 2003
Edgeless cities are a form of sprawling office development that lacks the relative density and cohesiveness of edge cities. Robert E. Lang, director of the Metropolitan Institute at Virginia Tech in Alexandria, will explore how parts of the Washington, D.C., region, like many other suburban areas, have become edgeless cities, and will discuss the challenges facing our urban policymakers as this new suburban condition continues to spread. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

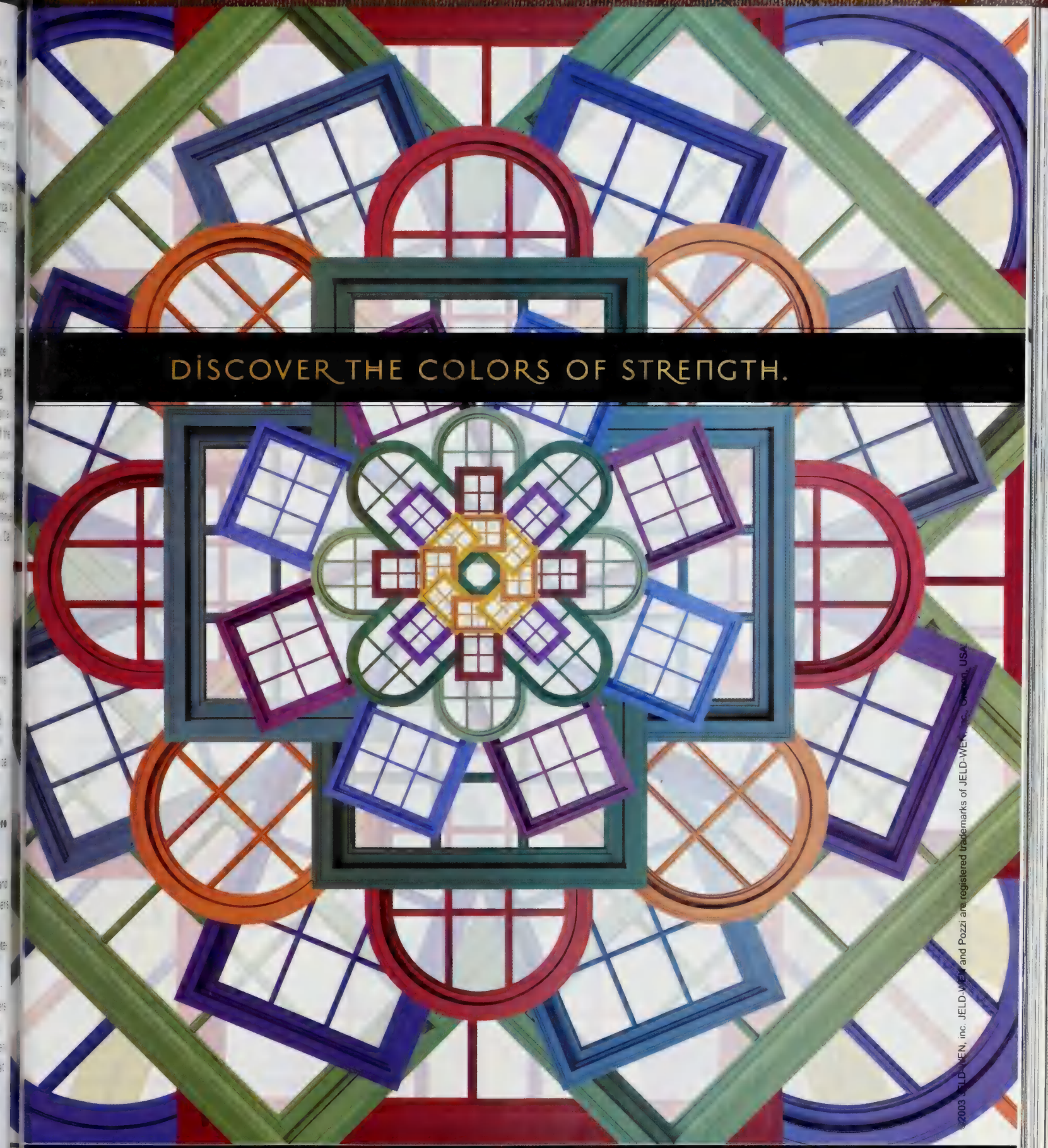
International Design Conference in Aspen (IDCA)
Aspen, Colo.
August 20–23, 2003
Held each summer since 1951, IDCA presents a vital and authoritative forum on design for professional designers, students, critics, and thinkers. This year's program theme is "Safe: Design Takes On Risk." Visit www.idca.org or call 970/925-2257.

The Ninth Annual 2003 Designer's Fare
New York City
September 19–28, 2003
Showcasing the work of outstanding interior and landscape designers, the ninth annual Designer's Fare will be a major fund-raiser for the Mount Vernon Hotel Museum and Garden. Leading interior designers will create exciting spaces that focus on all aspects of entertaining, from traditional to trendsetting, while landscape designers present their displays in the museum's garden. At the Mount Vernon Hotel Museum and Garden. Call 212/838-1623 for ticket information or visit www.mountvernonhotelmuseum.org.

CERSAIE
Bologna, Italy
September 30–October 5, 2003
The international exhibition of ceramics for the building industry and bathroom furnishings will promote profitable commercial exchange and new ideas for industry specialists, architects,



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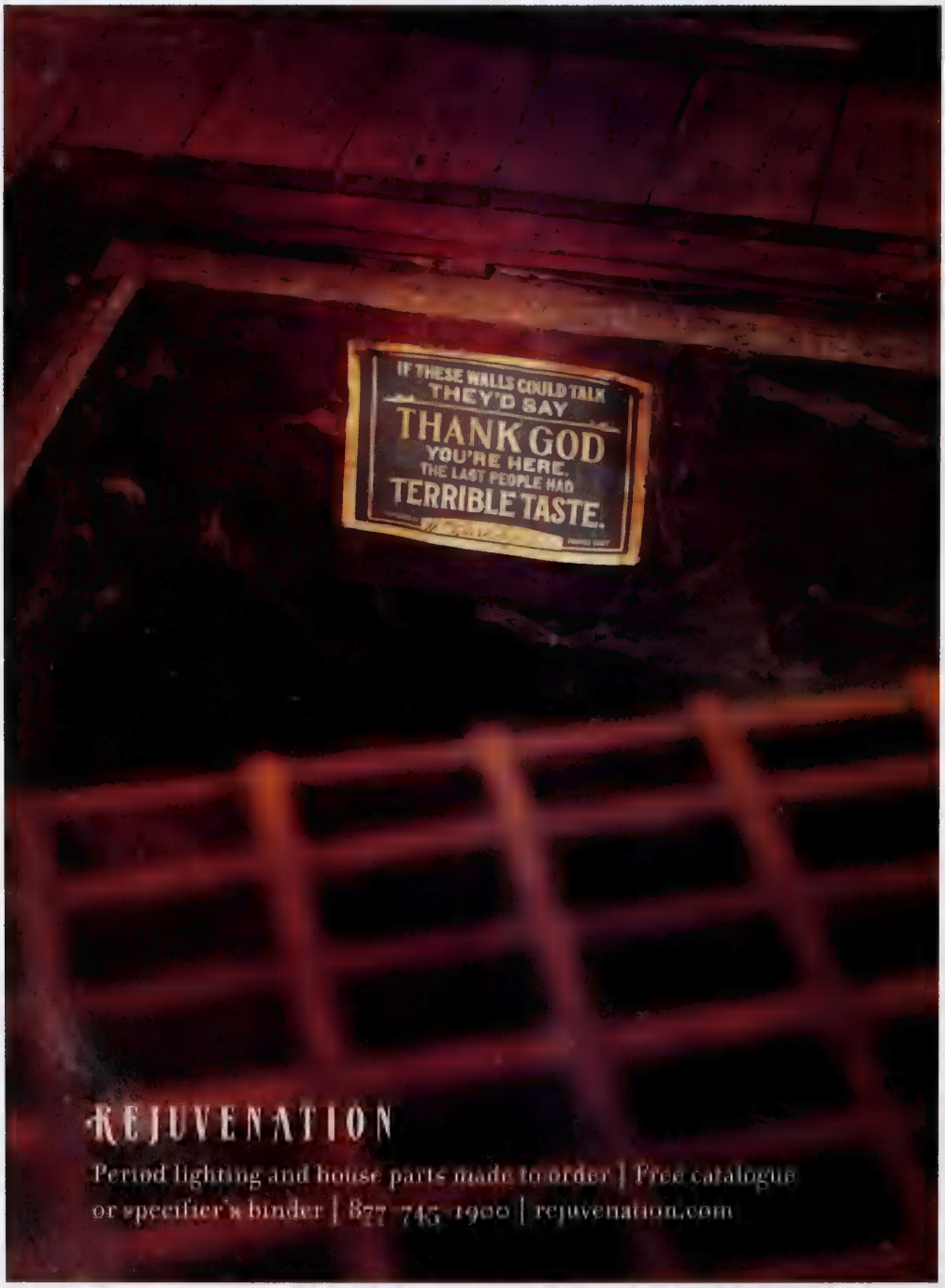
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and designers. For further information, call 39051/66-46-000 or visit www.cersaie.it.

FIAM 2003
Valencia, Spain
September 29–October 4, 2003
The International Fair of Lighting Fixtures presents a complete product range covering all styles, from Classical to Modern and contemporary. At Feria Valencia. For additional information, call 34/96-386-1100 or visit www.feriavalencia.com.

Different by Design: Modern Architecture and Community
Houston, Texas
September 17–October 8, 2003
A forthcoming lecture series to be presented by the Rice Design Alliance will explore what role architectural design plays in constructing community identity. These talks will address the issue of Modern architecture's representation as well as its reception. At the Museum of Fine Arts. Call 713/348-4876 or visit www.rice.edu.



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Density: Myth & Reality
Boston
September 12–14, 2003
Density can play a role in containing sprawl, reviving urban centers, and creating a sense of place. The Boston Society of Architects will host a conference on the topic, exploring design for density in settings that range from cities large and small to older suburbs. Visit www.architects.org/density.

18th IAKS Congress
Cologne, Germany
November 5–7, 2003
The International Congress for the Design, Construction, Modernization, and Management of Sports and Leisure Facilities will cover sports facilities for the Olympics 2006 Soccer World Cup in Germany, and other topics. Visit www.saia.org.za/kznia/18thIAKScongress.html.

Competitions

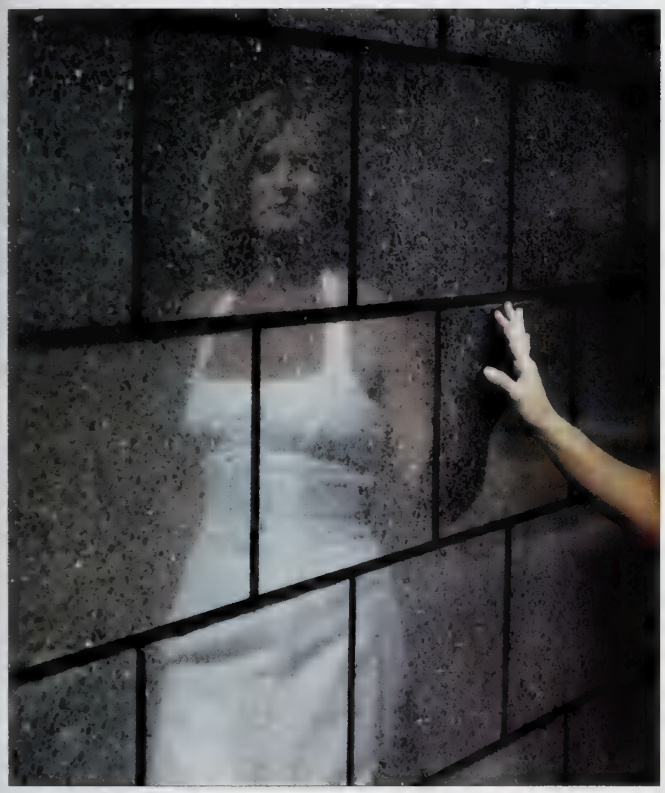
The 2003 National Post Design Exchange Awards
Toronto, Canada
Deadline: August 31, 2003
Canada's most prestigious design competition is open to design professionals and their clients across Canada. It is the only awards program to judge design by results, balancing function, aesthetics, and economic success. The categories are Products, Environments, Interiors, Visual Communications, Fashion, New Media, and Sustainable Design. Visit www.dx.org.

Palisades Glacier Mountain Hut Competition
Berkeley, California
Deadline: December 5, 2003
An international competition for the design of a 60- to 80-person wilderness-base-camp facility for overnight stays near the trailhead leading to the Palisades Glacier in the Sierra Nevada Mountains of Central California. Visit www.ced.berkeley.edu/competitions.

The 2003 Pinnacle Awards Competition
Cleveland, Ohio
Deadline: September 19, 2003
The Marble Institute of America is accepting entries for its awards competition, honoring excellence in commercial and residential natural-stone projects around the world. Entries will be judged on beauty, creativity, ingenuity, and craftsmanship, and will be presented in three categories. Call MIA at 440/250-9222 or visit www.marble-institute.com.

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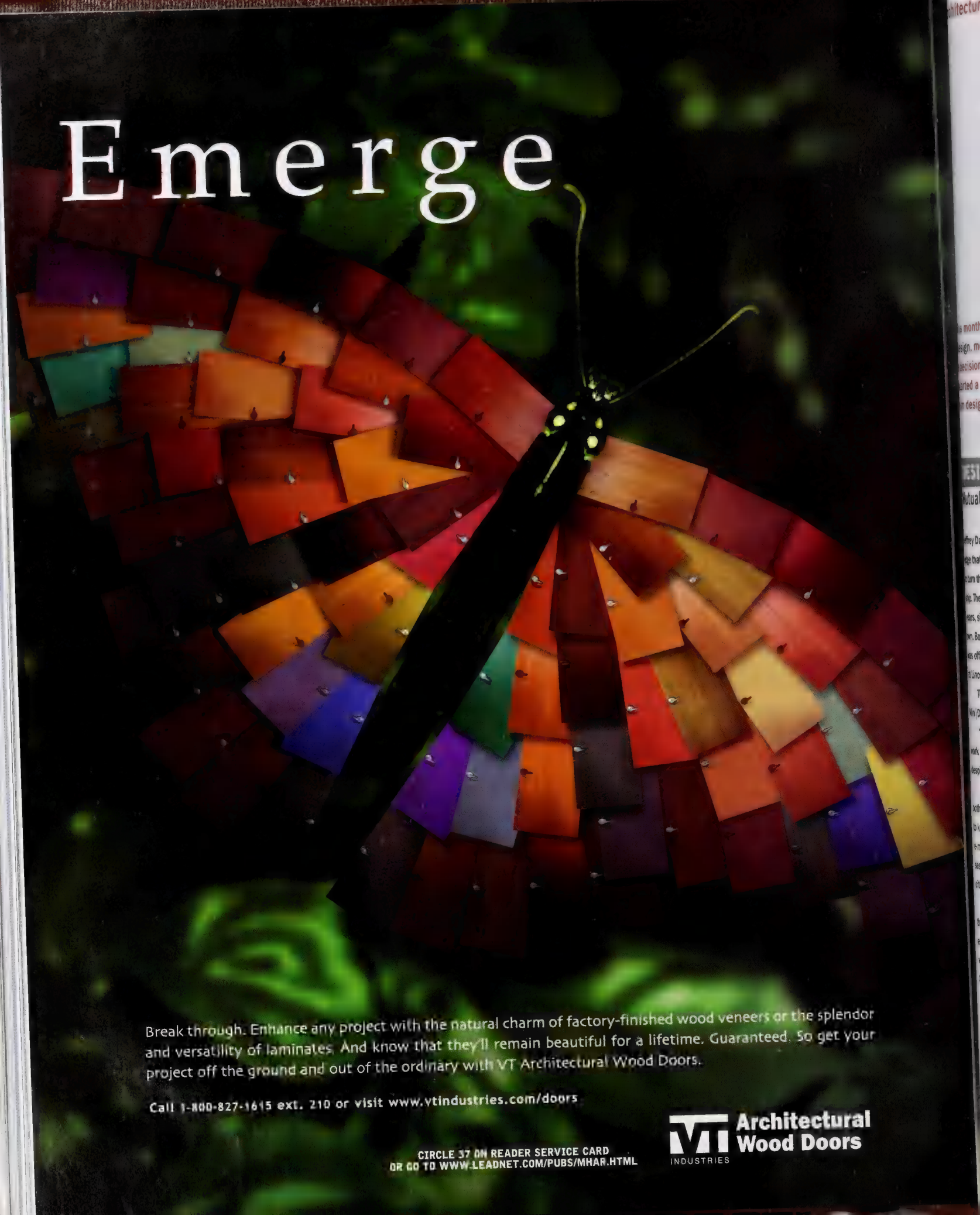
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archrecord2

FOR THE EMERGING ARCHITECT

This month, even more than usual, archrecord2 celebrates unconventional partnerships. In Design, meet two architects who established their firm at the moment one of them moved away, a decision they say energized them creatively. And in Work, meet an intern in Oregon who started a business as a developer and convinced his employer to take on the project—and to let him design it. On the Web, as always, you'll find our forum, Talk.

DESIGN

Mutual in Omaha and San Francisco

Jeffrey Day and E.B. Min, the principals of Min|Day, acknowledge that they picked an apparently counterintuitive moment to turn their on-and-off collaboration into a formal partnership. The two had been working on projects together for a few years, since Min had left her last employer to set out on her own. Both were living in San Francisco at the time. Then Day was offered a teaching position at the University of Nebraska at Lincoln, and moved to Omaha to join his wife.

Thus—with principals living half a country apart—Min|Day was born.

"I think out of all the people we've worked with in our careers, we really work together the best," Min said, "and that's something you can't replace. So despite the distance, we wanted to continue to pursue the arrangement."

The unusual two-city setup informs the pair's practice in ways that were both expected and unexpected. The mechanical accommodations necessary to keeping up a long-distance partnership came as no surprise: phone calls, e-mail, and occasional flights to one city or another for weeklong charrette sessions. Min and Day did not expect, however, that the particular pairing of cities would have a bearing on their work.

"Most of our clients are still in California, because that's where we have the most word of mouth," Day said. "What's interesting about our Nebraska projects is that we're getting sorts of projects that we wouldn't get on the coast, and we become directly involved in projects in a way that we haven't approached in California, where we have a fairly conventional practice."

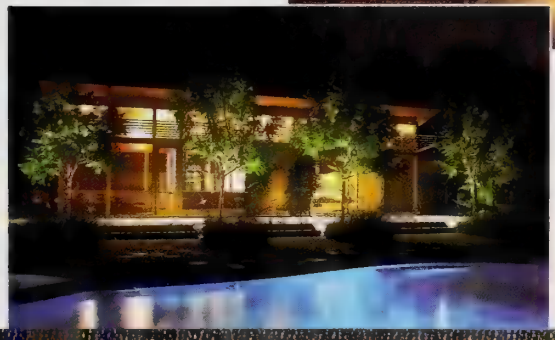
"It's something we wouldn't have predicted," Min added, "but our Nebraska work has turned out to be our experimental work."

One of the major themes that appears in all of Min|Day's work, whether experimental or not, is an emphasis on landscape. Min worked for landscape architects, and, she says, the experience influenced her appreciation of landscape as a part of architecture. Day agreed, and said that landscape also influences the firm's architecture in a more fundamental way: "We think of landscape as a



Castillo House, Richmond, Calif., 2002–present
A leftover lot behind a suburban development becomes a "working landscape" for a client who runs a sitework business. The house will be clad in stressed skin panels and windows designed by the owner.





Palo Alto Poolhouse, Palo Alto, Calif., 2001
The architects conceived this pool house as part of an evolving landscape, rather than as a single focal point for a backyard.

(continued from previous page) process," he said, "as a way of working with projects that have uncertain futures. The work of landscape architects always looks better with time, whereas the work of architects starts to deteriorate as soon as it's built."

Beyond the broad idea of landscape, however, Min | Day's work is difficult to categorize, which is at least in part by design.

"We don't talk about style," Day said. "Even when clients initiate a discussion about style, we try to defer that and work with the program and the client's particular needs. But if there is a stylistic overlay, it's just a by-product of how we work."

They have designed a diverse range of programs: an ADA-accessible suburban residence, an adaptive reuse arts center in downtown Omaha, and a straw-bale house on a wind farm, for example. When they talk about their practice, they often use the word "expansive."

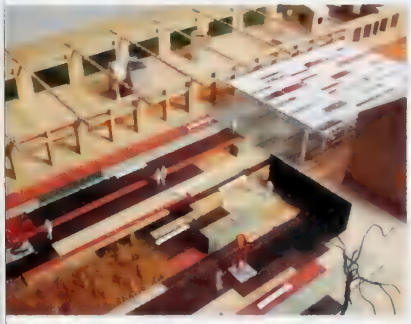
"It was great that we solidified our relationship when Jeff left," Min said. "Where he's located and where I'm located, our businesses influence each other, and it helps us maintain a strong curiosity in building methods, clients, and design. It all has to do with the fact that we have this Nebraska office." *Kevin Lerner*

For more of Min | Day's projects, and to learn how to submit your own, go to architecturalrecord.com/archrecord2.



Museum of Art & Design, San José State University, 2003
This proposal suggests a museum that would be a "glowing lighthouse" at the center of campus.

Bemis=Art Landscape, Omaha, 2001–present
This arts center plans a new performance area, interiors, and landscaped courtyards.



IMAGES: COURTESY MIN | DAY (TOP); © LARRY GAWEL (BOTTOM); GENE FAULKNER (OPPOSITE, TWO)

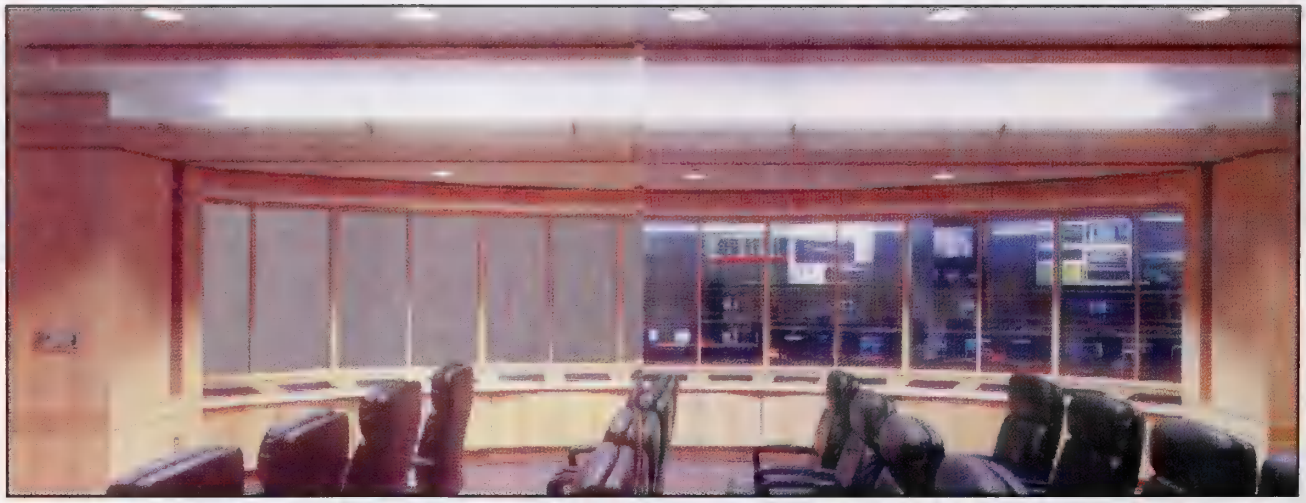
WORK

Seeing what develops

An intern creates a job on the sid
Kevin Cavenaugh has a good gig for n architecture school graduate. He's ar intern at Fletcher Farr Ayotte (FFA), a busy and established firm in Portlan Oregon. As an intern, he can't sign o on his own projects, and by his own admittance, there are "people higher on the totem pole."

So, in order to do some more su stantial design work, and to satisfy t nascent developer in him, he scrape together $100,000 of "smoke and mi ror money" and bought a piece of la in southeast Portland, which he inter ed to develop as a mixed-use comple in a neighborhood of single, young p fessionals. But it was his position wit FFA that allowed the project, known a "Box & One," to happen.

"I'm not a licensed architect, and even if I were, I have a wife and two kids, and I don't want to moonlight t do this," Cavenaugh said. "I asked FF



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A wine bar (far left) adds to the neighborhood's street life. The complex also houses a bakery. Upstairs, four lofts (one interior shown at left) and one flat provide new neighborhood housing.

ey wanted to do a smaller project
me as the client, and I held my
ath, because they had everything to
e and nothing to gain. This wasn't
g to be a cash cow for them."
FFA approved the project, and let
enaugh choose one of the firm's
ners to oversee his work. He chose
e Farr, AIA. With himself as client,
enaugh set out to design the proj-
which is significantly smaller than FFA's usual work.

"At the end of each month," he said, "FFA would hand me a paycheck—and a much larger bill."

But his investment is beginning to pay off. All five residential units are occupied a year after completion, and the bakery and wine bar downstairs have proved to be popular neighborhood attractions.

Dale Farr said that the project benefited the firm, as well, allowing it to work on a more "cutting-edge" project, which he said was an inspiration to the firm's younger designers.

Cavenaugh also gained design experience: "Since he's the owner," Farr said, "it really was a chance for Kevin to learn from his mistakes and not get fired or sued." *Kevin Lerner*

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Houston focuses on the restoration and development of the Buffalo Bayou, a historic waterway

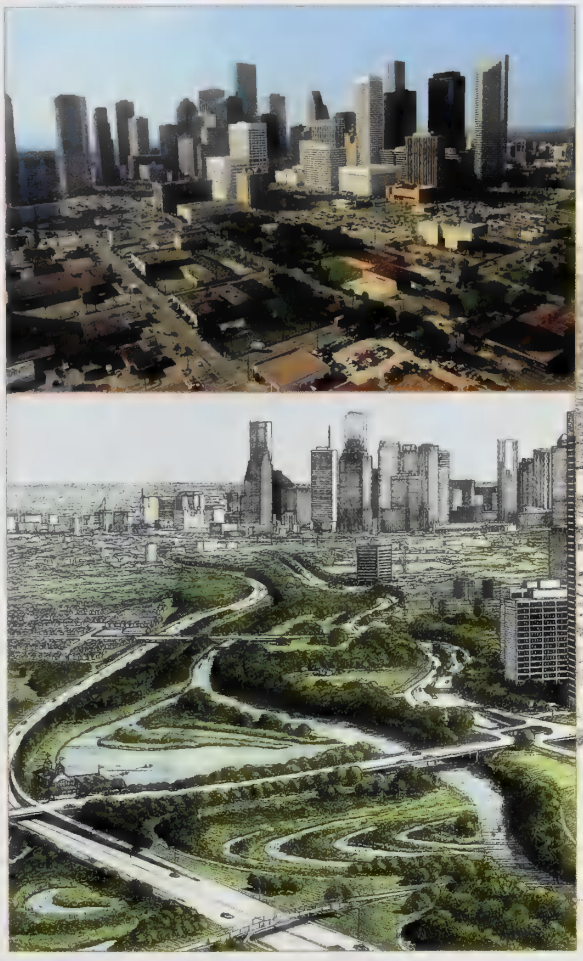
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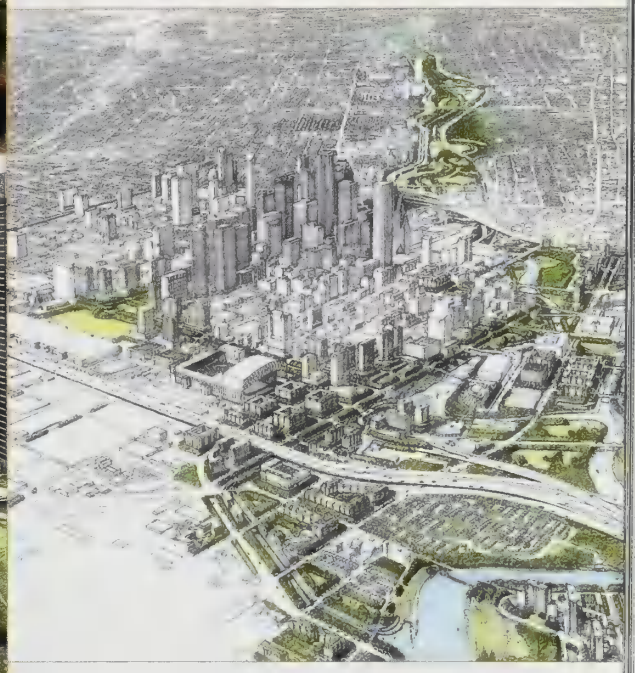
By Mildred F. Schmertz, FAIA

For many decades, the Buffalo Bayou, a badly neglected 10-mile waterway corridor that meanders between Houston's westward and eastward limits to flow into Galveston Bay, has blighted the city. Unfortunately, not enough public attention was paid or support given to earlier civic efforts to transform the bayou into an urban amenity. A Planning Report of 1913 for the Houston Park Commission noted that "the backbone of a park system for Houston will naturally be its bayou or creek valleys … these valleys intersect the city in such a way as to furnish opportunities for parks of unusual value within a comparatively short distance of most residential areas, those of the future as well as the present." This linear park system was never implemented, nor were later landscape proposals. Today, the bayou's ecological problems are serious—its riverbanks are eroded, brownfields are extensive, and most of the native wildlife is gone.

In 1986, a group of Houston's most prominent citizens, concerned about the future of their city, formed the Buffalo Bayou Partnership (BBP), a nonprofit organization to oversee development of the historic waterway. In the past six years, the partnership has raised and leveraged more than $40 million in public and private funds for improvements and currently is facilitating nearly $50 million in landscape enhancements. In 2002, working in partnership with representatives of Harris County, Harris County Flood Control District, and the City of Houston, BBP produced a long-range integrated regional master plan known as "Buffalo Bayou and Beyond" that will direct the rehabilitation of the bayou as an ecologically functional system protected by low-impact development. The planning and urban design firm Thompson Design Group Inc./EcoPLAN and the landscape architecture firm Dodson Associates, with support from engineering, transportation, and water-based-activity consultants, directed the 18-month planning process.

In the early 19th century, goods were transported along the bayou, leading to the official birth in 1836 of the city as a trading center. With the growth of railroads a century ago, the waterway became obsolete. The master plan, by refocusing the relationship of the city to the bayou, will make it once more a central feature in urban life, transforming and shaping every aspect of Houston's future growth. The proposal calls for the creation of 850 acres of new linear parkland that will transform the bayou into a recreational and scenic resource for Houston. Within the park system will be a

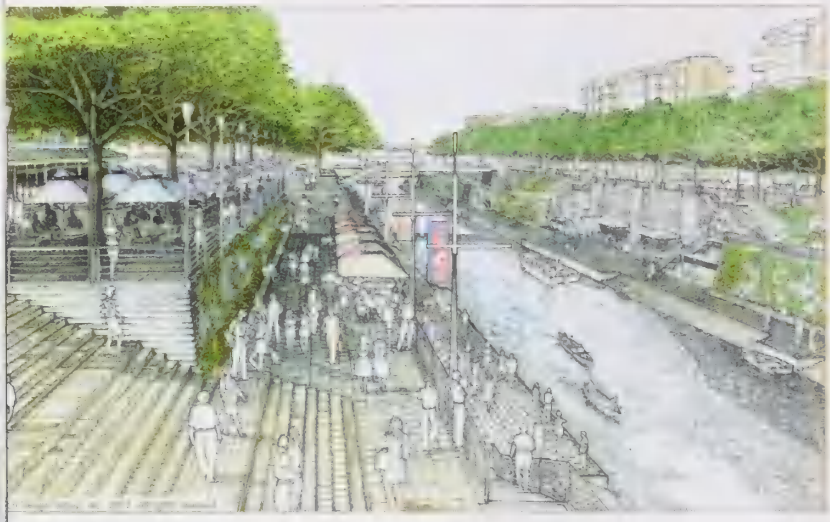




The master plan calls for the transformation of the existing city (left) into a place that maintains the bayou as a public resource, offering its banks and waters as a safe, clean, visible, and accessible amenity (bottom left and below).

Architect and journalist Mildred F. Schmertz is a former editor in chief of ARCHITECTURAL RECORD.

PHOTOGRAPHY: © ASSOCIATED



Edges of the waterway will be designed to provide flood protection, as well as areas for outdoor seats, tables, and kiosks.

network of trails and public sites that promote access to the bayou. Existing neighborhoods, reclaimed former industrial sites, key sites chosen for future housing and commercial development, and all areas of downtown will have access to the bayou's views and riverbanks.

The master plan divides Houston into three geographic sectors: West, Downtown, and East. For the west sector, plan elements include a general upgrade of the bayou environment, improved habitat, better access, and expanded waterway for boating. In the downtown sector, a key component of Houston's continued revitalization, the bayou is largely invisible—roadways cover it, access is poor, and few retail and recreational activities exist along its edges. Adjacent parking lots and vacant sites must be replaced with downtown development that is multipurpose and tailored to an urban design vision that perceives a fine waterfront as essential to a new life for Houston. In the east sector, the bayou becomes a large river hidden behind industrial buildings, some functional, others abandoned. The goal is to improve boulevards, enhance existing parks and create new ones, develop new employment opportunities through new industry, and strengthen neighborhood connections to the bayou as well as to the rest of the city.

What are the prospects for the master plan's long-term success? Planner Jane Thompson is counting on the civic leaders' track record to date and on strong community support. She notes, "The plan builds on the substantial achievements of the BBP to improve Buffalo Bayou and change the way Houstonians see and appreciate this waterway. Hundreds of concerned private citizens, business leaders, and residents of adjacent neighborhoods were heard from and listened to. In a sense, this really is a people's plan, developed by Houstonians with a vision for the bayou and a deep concern for the future of this city." ■

THE BAYOU PLAN WILL BE DIRECTED AS AN ECOLOGICALLY FUNCTIONAL SYSTEM PROTECTED BY LOW-IMPACT DEVELOPMENT.



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Four short essays comment on the peculiar ways cities do or don't work

Critique

By Robert Campbell, FAIA

The dog that mussed the grid

Charleston, South Carolina, is my favorite American town plan. (The favorite of Colin Rowe, by the way, the architectural historian and guru, was the plan of my home city of Buffalo. Buffalo is like maybe one fourth of Washington, D.C., laced with Olmsted parks and parkways. But your favorite can never be your own home town.)

At a conference in Charleston, I once invented a myth to explain the Charleston plan.

The mayor is trying to determine what the street plan of Charleston should be. To explain his ideas to his staff, he lays a fisherman's net on the floor of his office. The net is a simple, typical American grid. It represents a network of streets, oriented to the cardinal points of the compass, and all meeting at right angles.

But that night, the mayor is in a hurry to get away for his annual boar-hunting vacation. He doesn't bother to remove the net. Over the next few days, a dog comes and lies down on it. Visitors and staffers walk back and forth across it. Gradually, the net becomes a less regular grid. It acquires small bends and jogs, minor irregularities. One day, the mayor returns to his office. He looks at the net and realizes he's got his plan.

Contributing editor Robert Campbell, FAIA, is the Pulitzer Prize–winning architecture critic of The Boston Globe *and coauthor of* Cityscapes of Boston *(Mariner Books, 1994) with Peter Vanderwarker.*

The plan of Charleston is what you might call a "distressed grid." There is still enough of a grid so that you know where you are as you walk around the city. You can tell what's north, south, east, and west. You can sense in which direction are the two rivers. The grid, like all grids, orients you in the universe.

But the bends and jogs make places where something special can occur, like the famous jog on Church Street that foregrounds St. Philips Church. You get the best of both worlds: Overall order on the one hand, invention and surprise on the other. A distressed grid is an ideal plan for a city.

I once related this myth of origin to an old friend, Joe Riley, who has been mayor of Charleston since 1975. He's been telling it ever since.

Why the Red Sox don't need an urban space

In the middle of Boston sits a space called City Hall Plaza, a product of the urban renewal era of the 1960s. It is a vast redbrick piazza in front of Boston City Hall. City Hall Plaza is a miserable sunbaked desert in summer, and a frozen windswept expanse of tundra in winter. It is empty of pedestrians nearly all the time.

Since the plaza has no observable purpose, I have always thought someone should provide an explanation, perhaps in the form of a prominent sign in the middle of it that would announce: "Urban Space." Then we would know.

When you ask planners why City Hall Plaza should exist, you are always told that this is the place of civic celebration. The plaza awaits the day when the Red Sox will win their first World Series since 1918. (On that day, if it ever comes, most Bostonians will be on the telephone with their shrinks, their psyches shattered by the realization that the trusted order of the cosmos has been violated. But that's another story.)

What Bostonians forget is that another team, the hated New York Yankees, wins the World Series all the time. Yet the Yankees do not have an urban space in which to celebrate. At night, after the final game of a winning series, Yankee fans simply take over Times Square. It would be difficult to design an urban place less obviously suited to mass assembly than Times Square. But that's exactly why it works so well. The cops close off the side streets, the crowds mob the sidewalks, and an endless parade of honking cars files down Broadway, with guys standing on the car seats and roofs waving their





Set aside for celebration, City Hall Plaza in Boston, above, is deserted most of the time. But Times Square in New York (top) always draws a crowd.

beers and their Yankee caps and shirts. They haven't been given a space of celebration. They've appropriated it.

Times Square is not an empty vessel, peacefully awaiting your arrival. It is not a comfortable bed that planners have made for your urban delight. The public must grab it away from its other uses, must take it over. This act of appropriation is the source of its energy as a public space. And the act of appropriation then becomes a metaphor for the triumph in the ballpark.

Later in a Yankee championship week, there's a more formal parade down lower Broadway in the Wall Street area. That isn't an urban space either.

AS CHARLES MOORE PUT IT, "MODERNIST ARCHITECTS SPOKE IN ESPERANTO." BUT WHO WRITES POETRY IN ESPERANTO?

An anthropologist, a poet, a philosopher, and an architect all saying the same thing

Mary Catherine Bateson, anthropologist, writing about the opinions of her mother, Margaret Mead: "Human beings do not eat nutrients. They eat food. Food with symbolic meanings, flavors, colors, and smells. Food in the form of traditional dishes that fit the days of feast and fast and speak of the relationships of husband and wife, parent and child."

Mark Doty, poet: "A language of ideas is, in itself, a phantom language, lacking in the substance of worldly things, those containers of feeling and experience, memory and time. We are instructed by the objects that come to speak with us, those material presences."

Isaiah Berlin, philosopher: "A universal logic, like a universal language, empties the symbols used of all that accumulated wealth of meaning created by the continuous process of slow precipitation by which the mere passage of time enriches an old language, endowing it with all the fine, mysterious properties of an ancient, enduring institution. To analyze the precise associations and connotations of the words we use is not possible, to throw them away is lunacy."

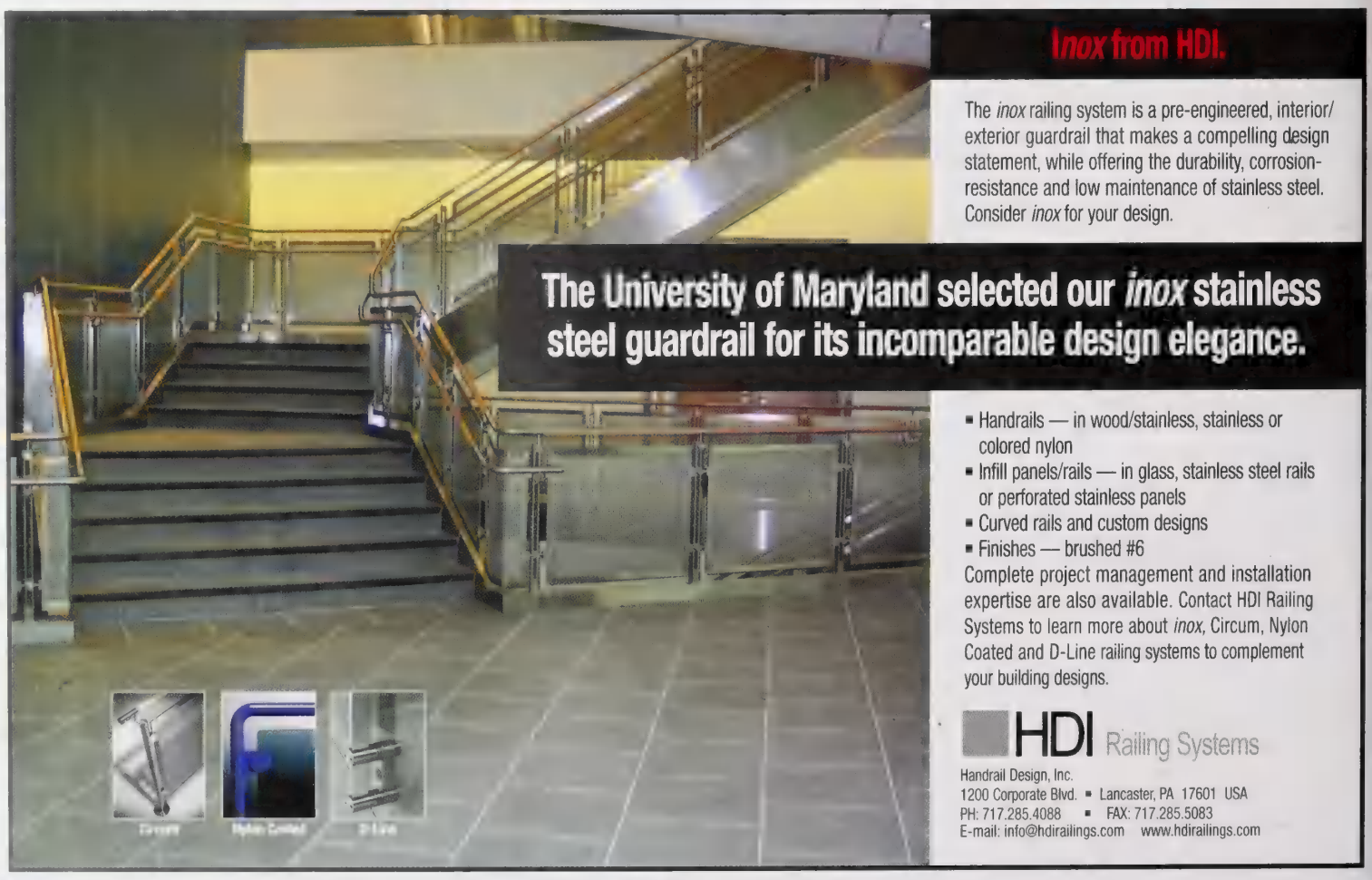
Berlin and Doty are writing about language. Bateson speaks of food, which—like architecture—is a cultural language. What they say is equally true of architecture. If we strip away the associations and connotations, the redundancies and resemblances, leaving something merely functional or merely invented, architecture disappears.

Or as architect Charles Moore put it: "Modernist architects spoke in Esperanto." He was exaggerating, of course, to make a point. But it's true that no one writes poetry in a wholly invented language.

The city as a mystery novel

One way of reading a book is to ignore the beginning and, instead, dip in here and there, figuring out the story from bits and pieces. The book becomes a mystery and you become the solver. You put together evidence to answer the question: What is this book about? You decompose the book into clues and recompose it into a harmonious whole in your mind. You become not reader but author. It can be a more vivid, more interactive way of reading. It's like the fun of entering a movie a third of the way through and imagining the beginning from the clues in front of you.

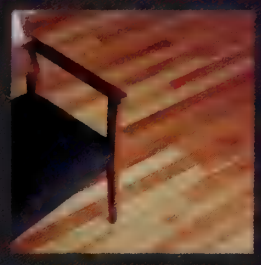
This is also the best way to see a city. Not starting with maps and guides, but getting lost in the city. Making it a mystery you need to unravel. Working out a solution for yourself from the evidence before you. Discovering the city, inventing it, rather than learning how someone else has understood it. ■



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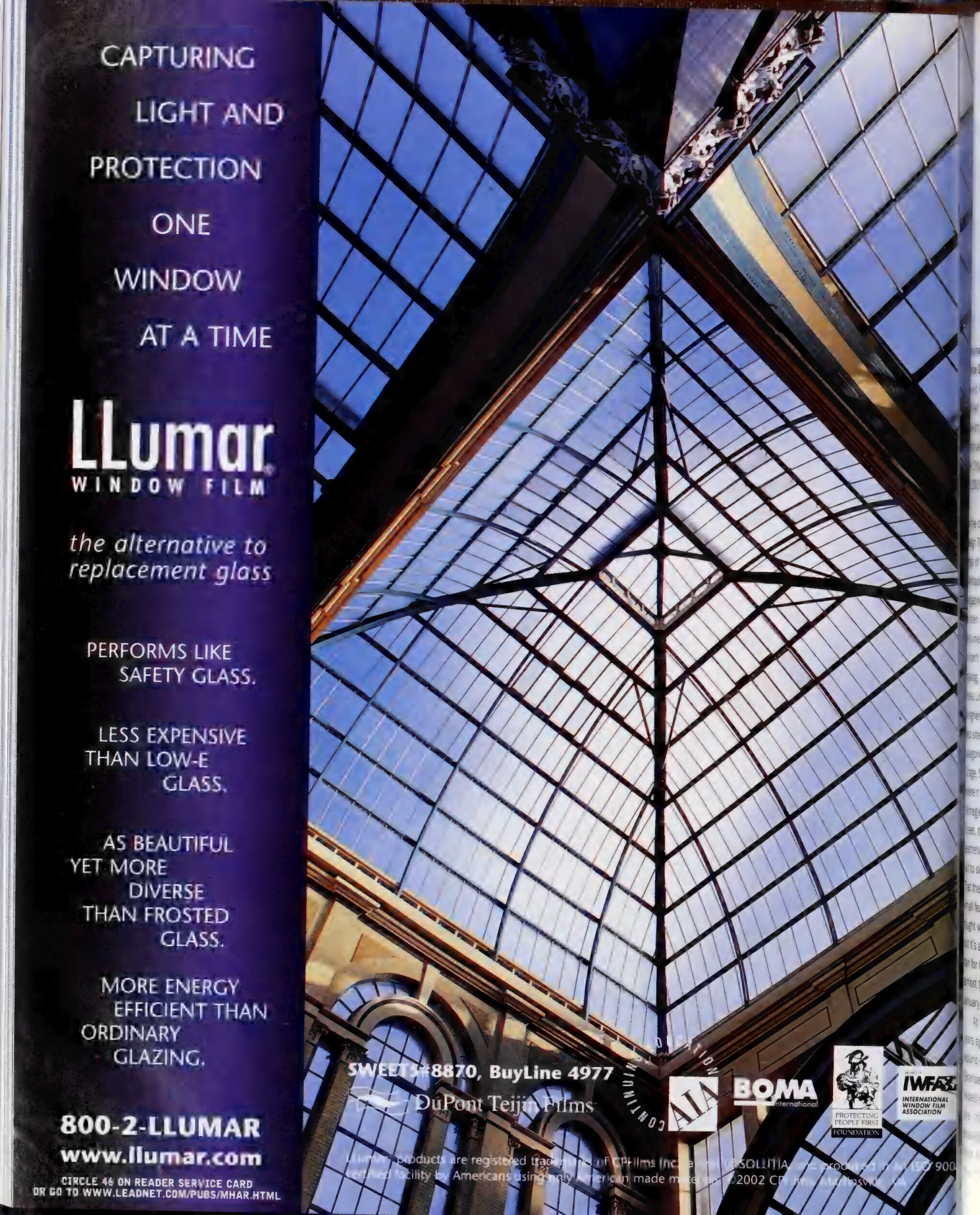
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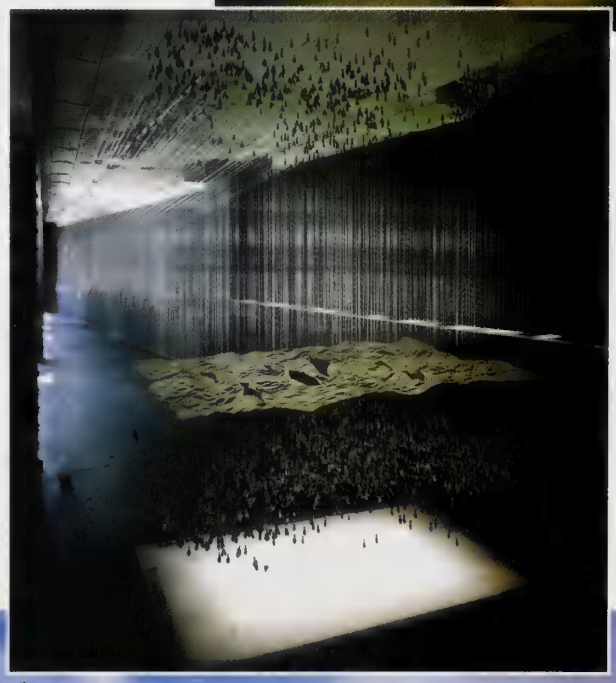

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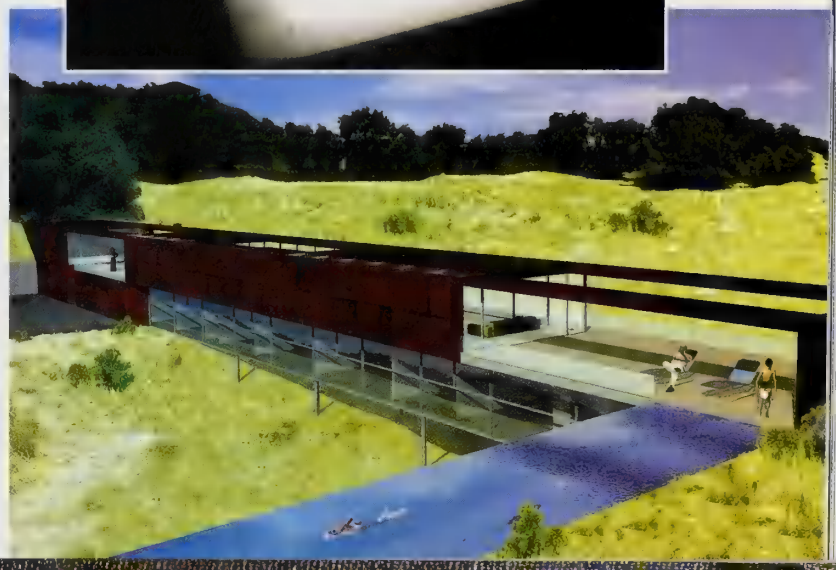
What's going on here? Looking at design without labels

Exhibitions

By Fred A. Bernstein







Working with nature: Critz Campbell's floral-patterned fiberglass chair (right), Yusuke Obuchi's *Wave Garden* installation (below), and one of Stanley Saitowitz's bar houses (bottom) that opens up to the land.

ational Design Triennial: nside Design Now. *Curated by onald Albrecht, Ellen Lupton, Mitchell Owens, and Susan elavich, at the Cooper-Hewitt, lational Design Museum, New ork City. April 22, 2003–January 5, 2004.*

or the curators of the National esign Triennial, organizing hun-reds of works—ranging from hristopher Niemann's (brilliant) agazine illustrations to carved ooden decanters to ornate hats to erfume bottles to movie sets—ouldn't have been easy. The show's atalog, from Princeton Architectural ress, unfolds alphabetically, by the esigner's last name. The exhibition eb site is organized around such ategories as "Image and Text" and Stage, Screen, and Spectacle." But here it matters, at the museum's arnegie mansion on East 91st treet, the arrangement is entirely esthetic, as if the curators had set ut to decorate the imposing house. hat they did so, successfully, is no small feat (the ornate rooms have ought with previous installations), ut it's also a curiously slight ambi-ion for the show, which will be filling almost the entire museum through January 25, 2004.

At the first Triennial three years ago, items were arranged around such themes as "Minimal," "Branded," and "Fluid." Those labels helped reviewers (including this one) critique curatorial choices and enabled visitors to grasp the concepts that compel designers. If you think this exhibition deserved a similar intellectual framework, you'll be disappointed. If you just want to enjoy the pieces on display—many of which are beautiful, and some of which are available in the gift shop—without having to think, you'll be relieved.

Little here could be called high-tech; there are none of the wearable computers, wristwatch cell phones, and personal transportation devices one has come to expect from design museums. In fact, the most impressive technological feat—by the MIT Media Lab's Cynthia Breazeal—is a bed of flowers whose petals and stems respond to human movements. There are also flowers to sit on (Critz Campbell's witty fiberglass chairs) and flowers to look at (Antenna Design's shower of cherry blossoms over the museum's main staircase). The show seems to be saying that, in a thorny world, design shouldn't be challenging, but reassuring. Everything's coming up roses.

Michele Oka Doner's castings from nature and the bronze light fixtures of Stephen McKay are what the design magazines have dubbed "high touch." Which is to say, these pieces, undeniably lovely, could have been created five or 50 years ago. Not so Yusuke Obuchi's *Wave Garden*, a vast installation that would harness the motion of the ocean to produce electricity, and then, when energy consumption dips on weekends, become a dazzling sculpture garden.

Only a handful of architects made it into the show. Stanley Saitowitz/Natoma Architects has a stunning, unbuilt synagogue in San

Exhibitions

Francisco, a series of "bar" houses, and his Yerba Buena Lofts [RECORD, August 2002, page 116]. New York's Dennis Wedlick has a quartet of beautifully crafted houses. Asymptote's Hani Rashid and Lise Anne Couture get to show off their A3 office furniture system for Knoll and HydraPier [RECORD, November 2002, page 110], while Escher + GuneWardena Architecture presents its three Electric Sun tanning salons in Los Angeles [RECORD, September 2001, page 148]. The show also includes houses by Mark Sofield for Prospect New Town in Colorado and furniture by Gaetano Pesce.

The big surprise is Peter Eisenman, decades older than most of the other "winners." Eisenman's cultural center in Santiago de Compostela, Spain, is jazzy in a way that seems practically Gehry-esque. The other Gehry-esque item is Abiomed's artificial heart, its titanium chambers surprisingly reminiscent of the titanium chambers of the Guggenheim Bilbao.

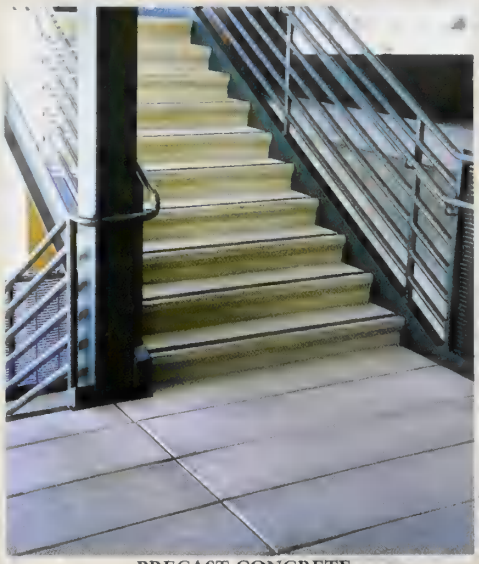
Many of the items in the show seem dated, despite the curators' insistence that they're cutting-edge. (Andrea Valentini is hardly a "genius," as the catalog calls her, for creating a foam-rubber ottoman that folds back onto a matching foam-rubber chair.) Worse, the few "socially conscious" entries—Greg Vendena's shingles made from recycled tires and Michael Rakowitz's $5 tent for vagrants—come off as tokens, given the lack of idealism in most of the other entries. It's as if the design world, chastened by the bursting of the dot-com bubble, has turned inward. The show's subtitle—*Inside Design Now*—turns out to have a double meaning: These are designs that fit in a curio cabinet. The Cooper-Hewitt, at least for now, seems content to be that cabinet. ■



Frank Gehry, call your office: Peter Eisenman's cultural center in Santiago de Compostela, Spain, has a Gehry-esque jazziness (below), while Abiomed's artificial heart (right) has titanium chambers that recall the Guggenheim in Bilbao.

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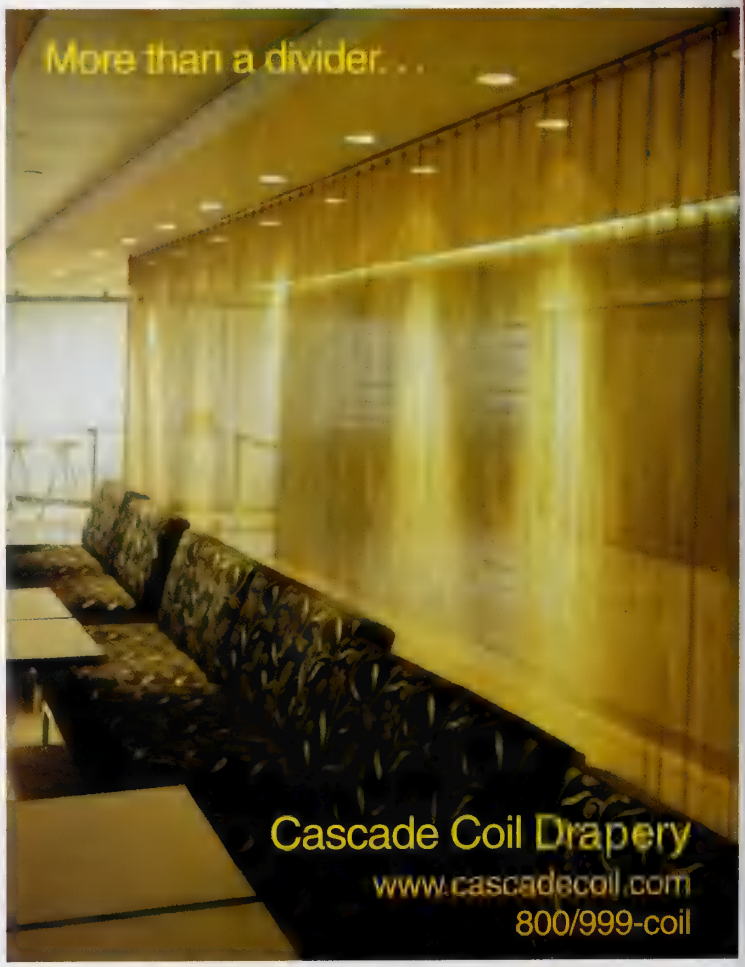


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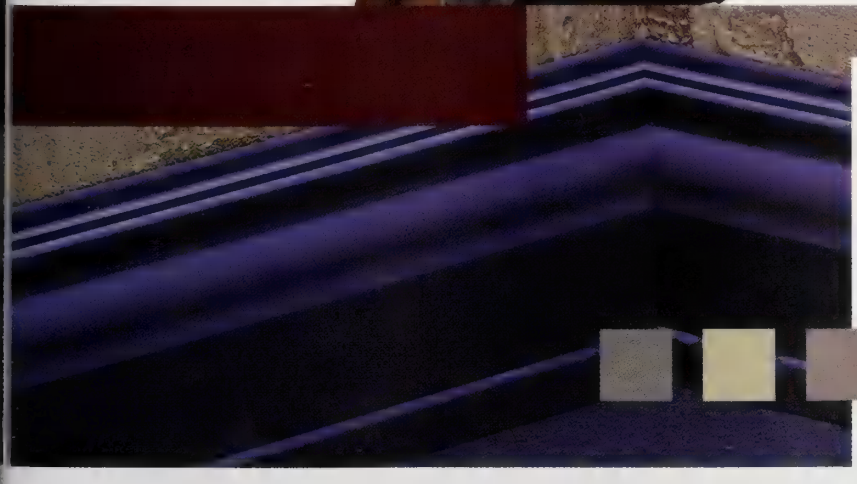
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In the public realm: Does low-tech work better than high design?

Exhibitions

By Fred A. Bernstein

Open: New Designs for Public Space. *Curated by Zoe Ryan, at the Van Alen Institute, New York City, through October 31, 2003.*

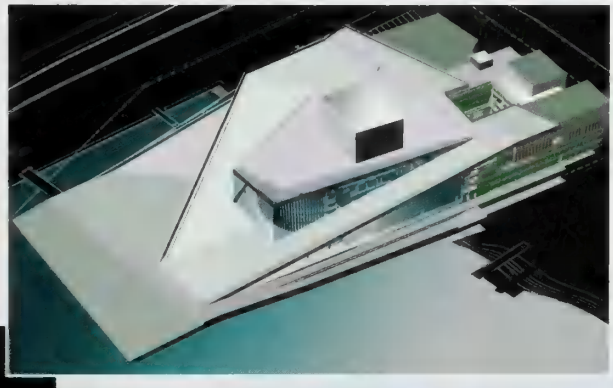
Good documentaries about architecture are rare, so it's a treat to find one at the Van Alen Institute in conjunction with the current exhibition, *Open*. Made by the Australian Broadcasting Company, the film tells the story of Federation Square, a recently completed cultural complex in Melbourne [RECORD, June 2003, page 108]. The program is a cautionary tale about both process (the architects ended up accusing the builders of "vandalism") and result (Federation Square looks dreadful, all jagged metal and sharded glass). In the documentary, architect Peter Davidson (whose partner in the project was Daniel Libeskind protégé Donald Bates) concedes that the two haven't landed any large commissions since the $260 million job was finished in October 2002. He also allows that the pleasure that visitors take in the square—sunning themselves, lounging on the grass—has little to do with the aggressive architecture.

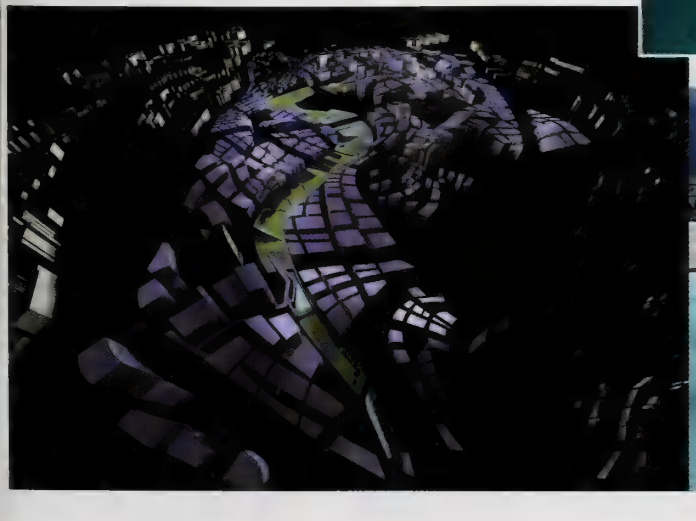
Which raises the question: Do we need "New Designs for Public Space," which is the subtitle of the exhibition? Or do we just need more of the old "designs"—lawns, trees, rocks, benches? Isn't the problem of urban open space mainly political (that is, getting land set aside for public use), rather than architectural?

One of the most successful projects in the show is Alameda el Povenir, a pedestrian and bicycle path that cuts through some of the poorest neighborhoods of Bogota, Colombia. It is essentially an 11-mile-long macadam driveway, and photos show it crowded with grateful users. And Southpoint, at the tip of New York City's Roosevelt Island, has become popular merely by virtue of being open to the public. That is, two of the least-designed open spaces seem (from the evidence in the show) to be more successful than the ones in which star architects strut their stuff.

The show, curated by the Van Alen's Zoe Ryan and designed by Freecell Collective, occupies a space outfitted in blue-green Plexiglas, suggestive of a swimming pool. Ryan didn't have an easy time making the show as lucid as it is; unbuilt landscapes are even more difficult than unbuilt buildings to depict in two dimensions. A few of the projects are underdocumented. Zaha Hadid's One-North, a high-tech office park, is billed as "a new landscape that aims to achieve Singapore's necessary density without its characteristic patterns of interiorization and segregation," but it's impossible to see from the renderings how it would do that. For that reason, the show is best when dealing with completed projects, including Vito Acconci's Island in the Mur, in Graz, Austria, [RECORD, May 2003, page 123], which looks far more inviting surrounded by rushing water than it ever did on paper.

A few proposals show great







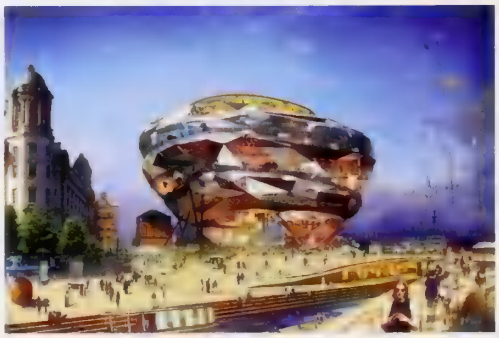
Buildings posing as landscapes: Zaha Hadid's One-North office park in Singapore (bottom left), Snøhetta's National Opera House in Oslo (left), UN Studio's Ponte Parodi plan in Genoa (below).

Fred A. Bernstein is a regular contributor to Blueprint, Metropolitan Home, *and* Oculus.



promise. Peter Eisenman's Memorial for the Murdered Jews of Europe, under construction in Berlin, creates a stunning, inflected topography from 2,700 columns. UN Studio's Ponte Parodi plan for Genoa uses folded planes (forming both the surface of a pier and the roof of an outlet mall) to gracefully extend the city seaward. And the Oslo National Opera House, by Snøhetta, looks to be a prime example of what Kenneth Frampton calls a "megaform"—a building that responds to and extends natural features, as much a landscape as an object in a landscape. (The Oslo project is a close cousin of Arthur Erickson's Museum of Glass, which gives Tacoma, Washington, a vibrant new neighborhood on its roof.)

Will Alsop's Fourth Grace building (below) and Alameda el Povenir (right) both engage the street.



Some of the most successful public spaces in the show are buildings. Norman Foster's London City Hall [RECORD, February 2003, page 110] uses the metaphor of "transparency" in government to brilliant effect. And Gluckman Mayner Architects' Mori Museum, in Tokyo, creates an intriguing series of spaces—both in plan and section—within an office tower. But Will Alsop's Fourth Grace, a building scheduled for construction in Liverpool, looks—no exaggeration—like Foster's City Hall after a bombing. The Van Alen's wall text announces that Alsop's building "will shout that the long-suffering port has left behind its industrial past." But a bulldozer and some grass seed could have done that.

Like any good survey, *Open* is entertaining and instructive. And in New York—where the reuse of the High Line, the reconstruction at the World Trade Center site, and the completion of the Hudson River Park are all progressing—it's a big help. Still, one can't help thinking that London's Serpentine Gallery (Snapshot, page 71), which erects an architectural showpiece in Kensington Gardens each summer, then removes it in the fall, is onto something: Architectural experimentation is fine (at least for a few months), but plain old open space works all the time. ■

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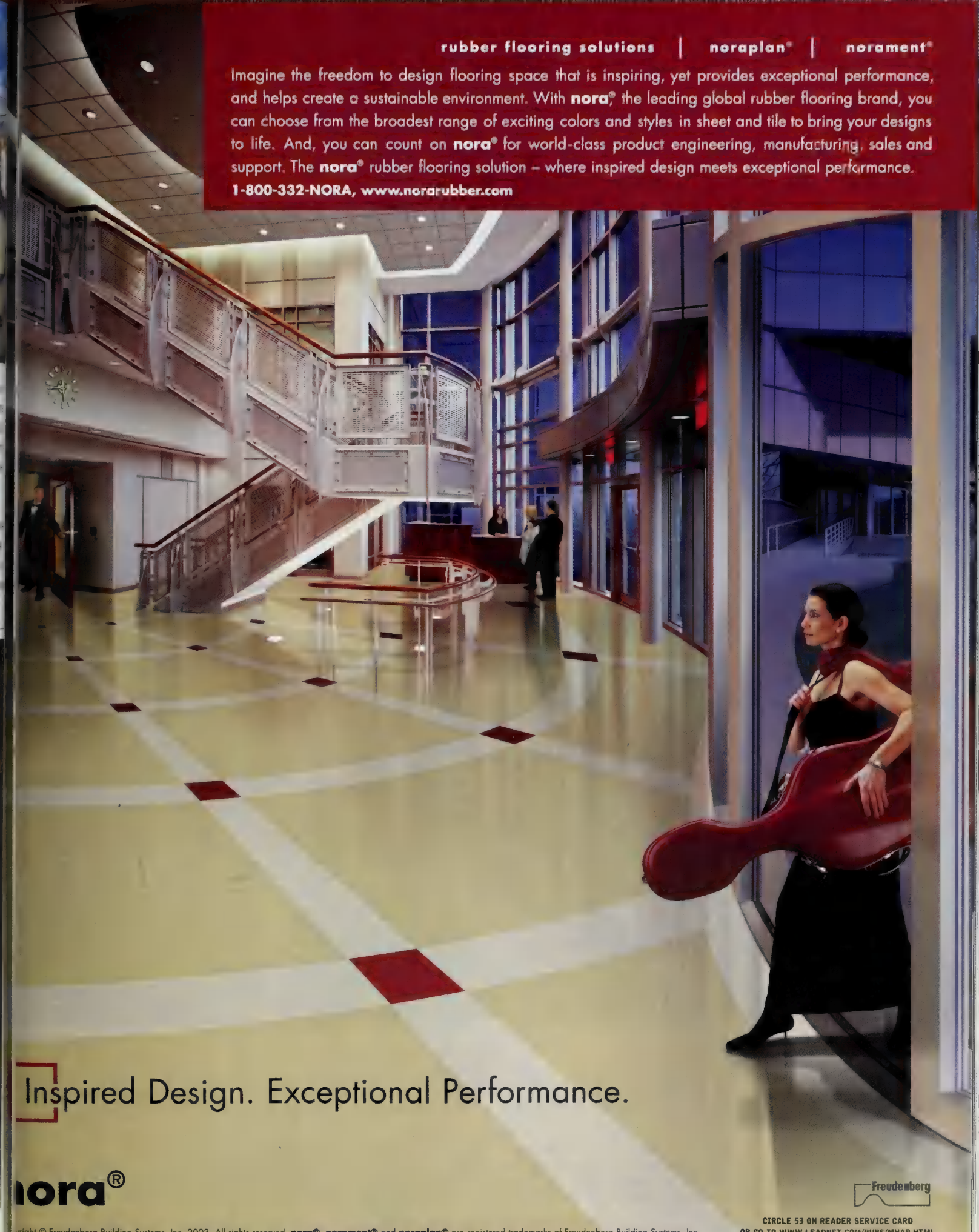






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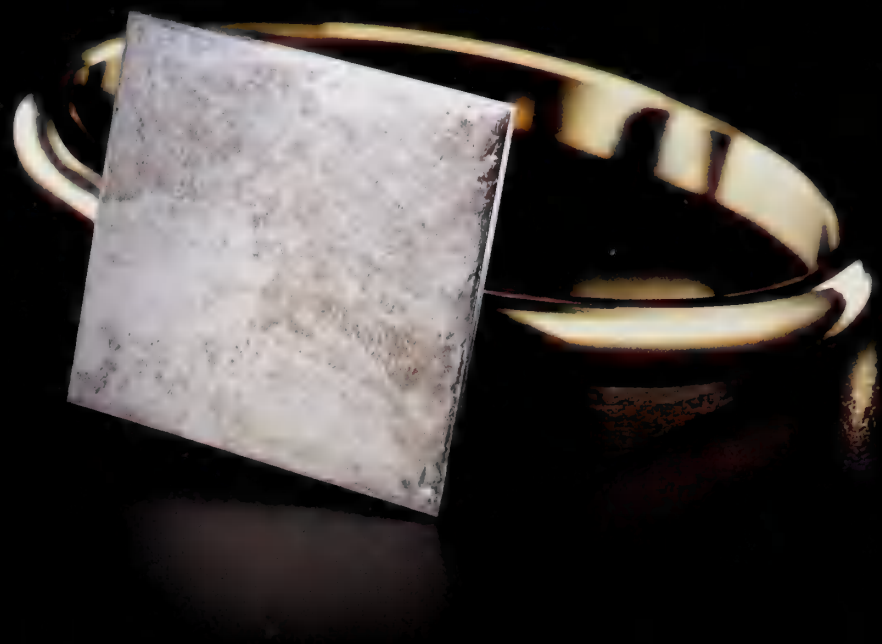
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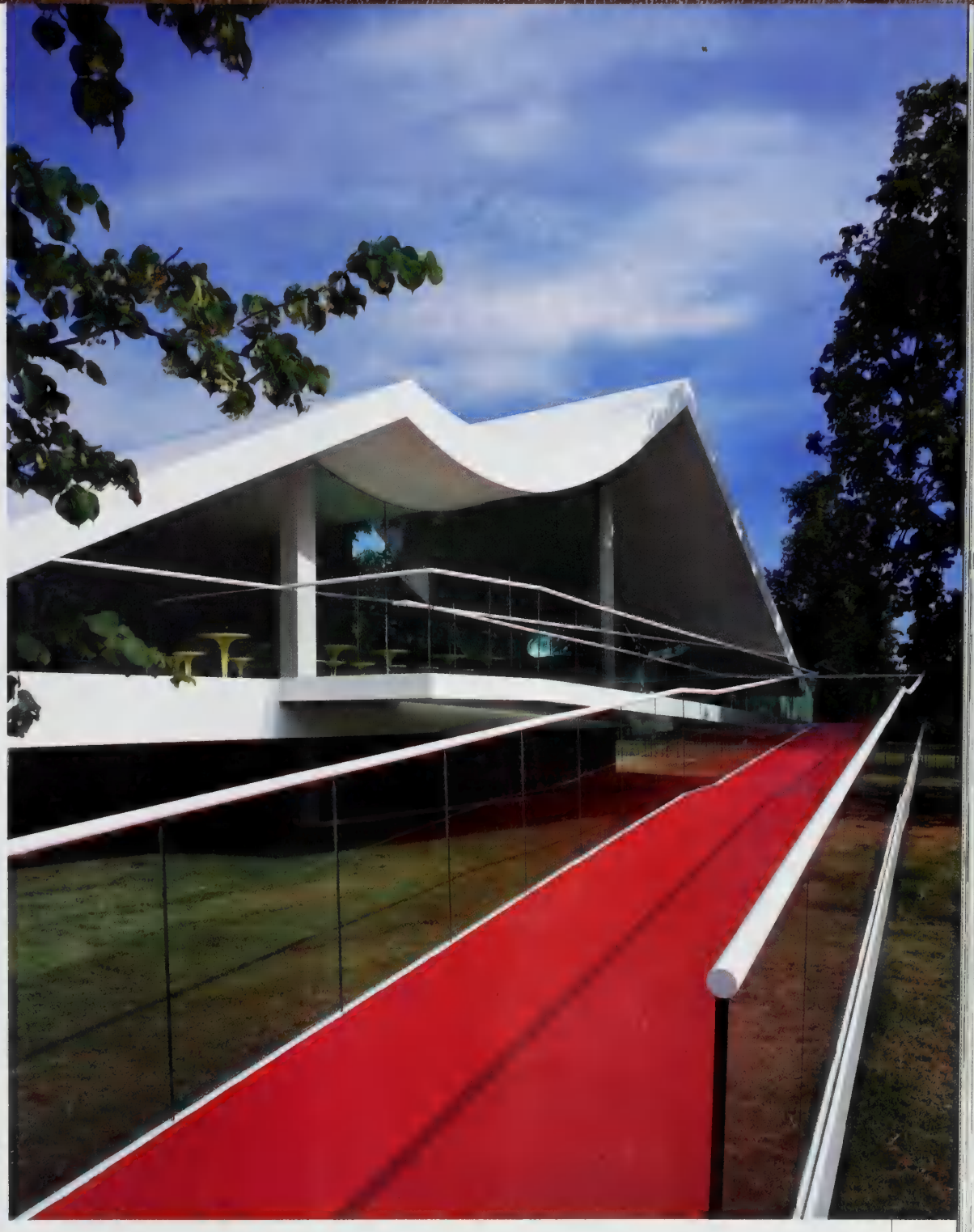
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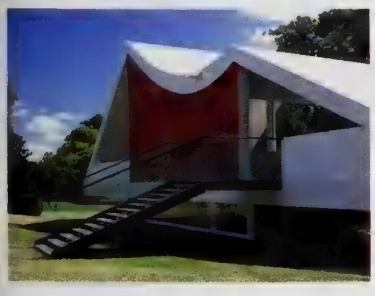
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Snapshot



The pavilion intimately displays many elements characteristic of Niemeyer's larger structures.



By Diana Lind

A grand master breaks new ground at the Serpentine

Open for just three months during the summer, the Serpentine Gallery Pavilion, located in London's Kensington Gardens, could be a mere blip on the architectural radar. Yet it manages to garner the attention usually reserved for major projects. One can see why. Since its inception four years ago, the Pavilion has showcased work by some of the world's most heralded architects for its annual architectural commission—Zaha Hadid (2000), Daniel Libeskind (2001), and Toyo Ito (2002). This year's selection for the project, Oscar Niemeyer, Hon. AIA, is no exception. Ninety-five years old and busy at work, the Pritzker Prize winner continues to engage and excite the public with his designs.

Despite being one of Niemeyer's smallest works, the structure, made of concrete, steel, and aluminum, still incorporates the architect's signature style. The Pavilion's location in a royal park limited the size of the project's footprint to 984 square feet (300 square meters), but the space had to be large enough to accommodate events

PHOTOGRAPHY: © RICHARD BRYANT/ARCAID/CORBIS



The Serpentine Gallery Pavilion hosts events, such as fiction readings and informal discussions of architecture, all summer long.



that throughout the course of the summer attract roughly 150,000 visitors. To allow for more room within the footprint, Niemeyer sank the auditorium into the ground while placing a café (with furniture designed by the architect) on the upper level. A glass wall affords transparency and enlarges the space by opening up the pavilion to the park. Sensuous curves and shocks of color recall other examples of Niemeyer's work—in particular, the Niterói Museum of Contemporary Art (1991) in Brazil, with its similarly striking red entry ramp.

Remarkably, the Serpentine's annual miniature masterpieces are completed within six months of the architect's commission. Serpentine Gallery director Julia Peyton-Jones explains that everyone involved uses "the shortage of time to their advantage." Moreover, she describes the process of working with Niemeyer as "extremely collaborative" and the project as "one of the most enjoyable" that she has ever participated in. Collaboration seems to be the key word—Jones stresses that the annual pavilion would not be possible without a multiplicity of sponsors, including Eurex, Arup, and *Time Out*.

The financial and media support for the architectural pavilion suggests that London has wholeheartedly embraced the program as a part of its urban agenda. In mid-September, when the structure is dismantled, it will be sold to recoup part of its cost, but it is hoped that it will remain somewhere in the United Kingdom. While Niemeyer has completed more than 500 projects worldwide, the Serpentine Gallery Pavilion is, in fact, his first project to grace the U.K. ■

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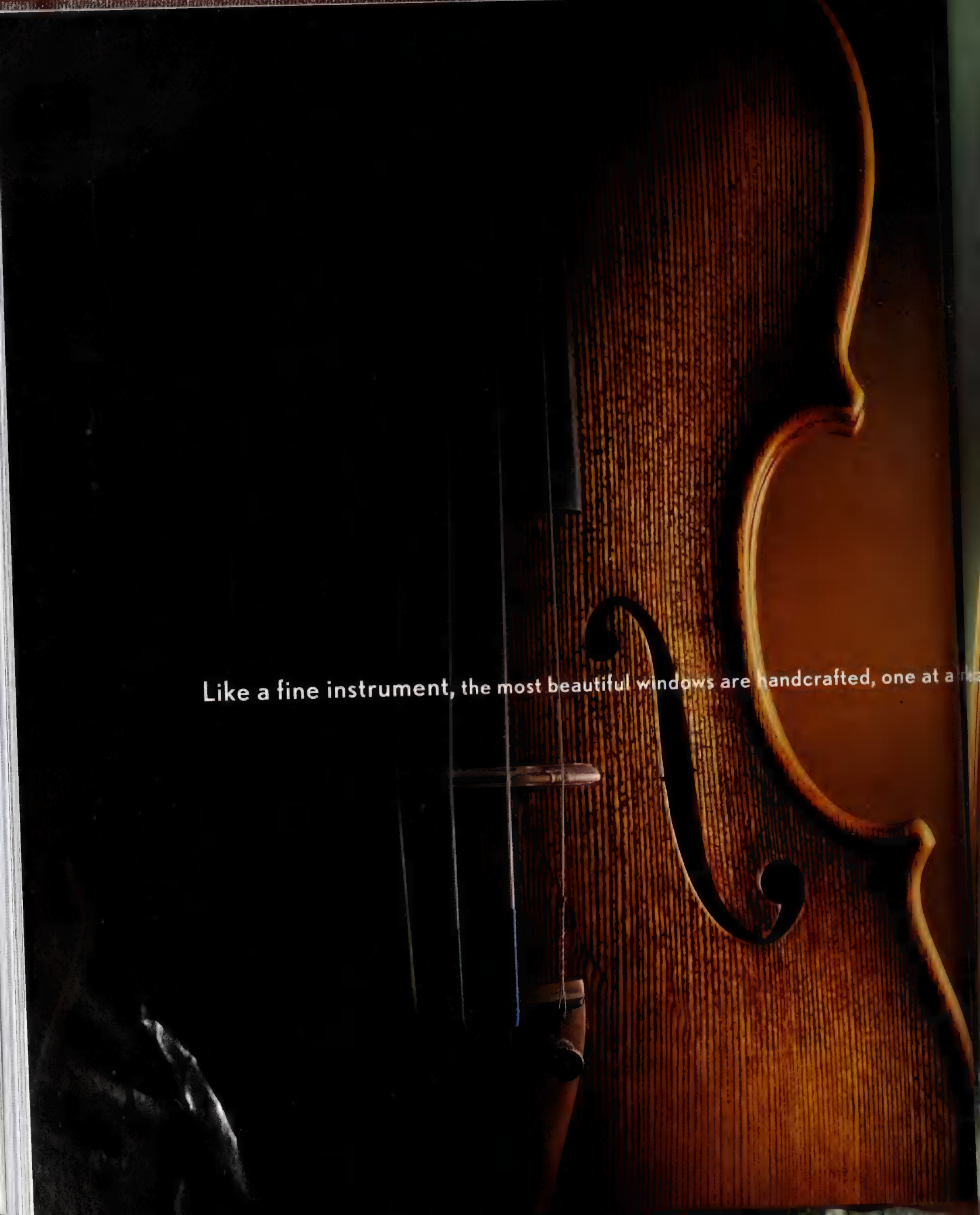
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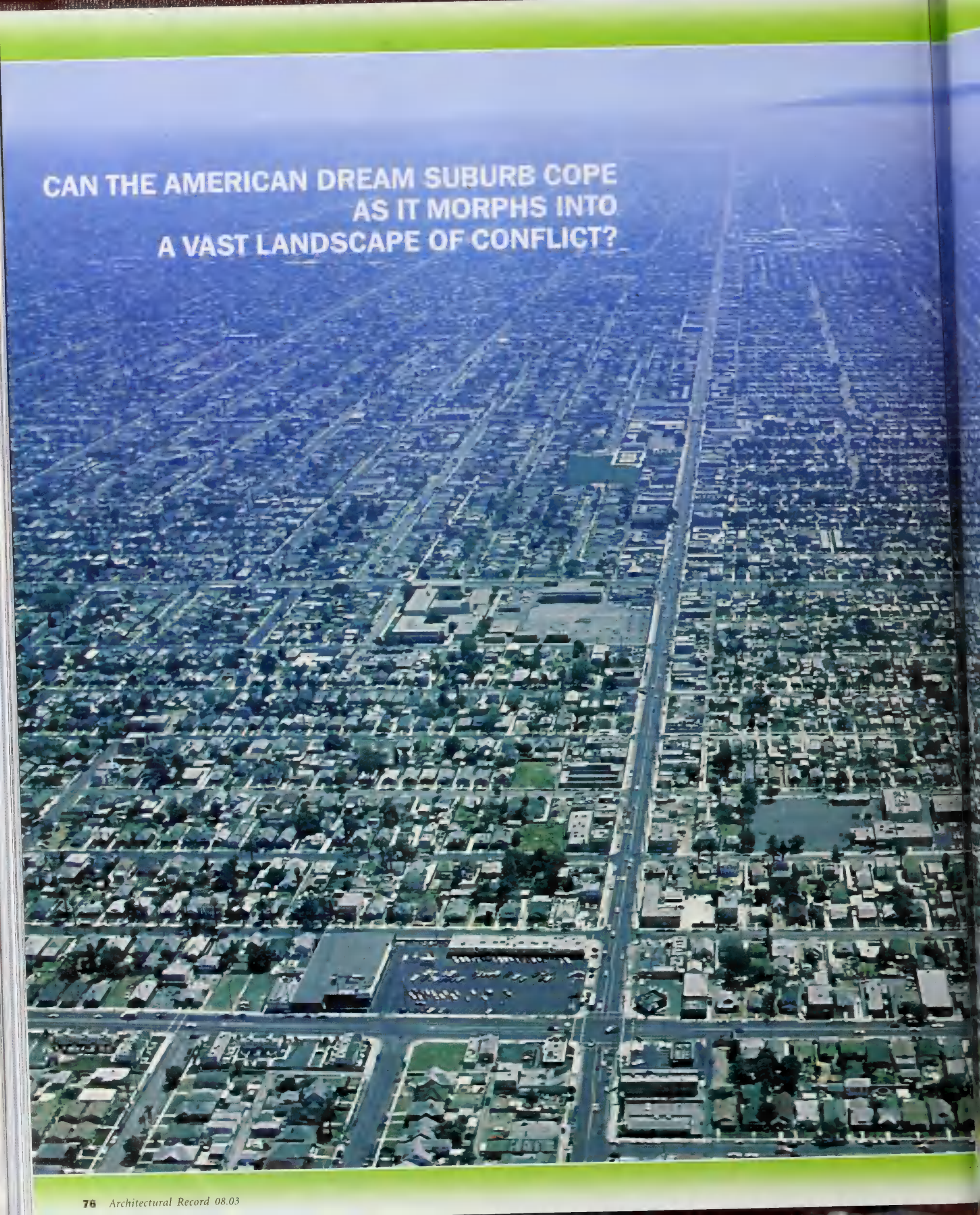
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CAN THE AMERICAN DREAM SUBURB COPE AS IT MORPHS INTO A VAST LANDSCAPE OF CONFLICT?





PHOTOGRAPHY: © ALEX MCLEAN/LANDSLIDES

When Suburbs Become Mega-Suburbs

By James S. Russell, AIA

By the early 1970s, the collective population of suburbs equaled that of cities—a triumph of the suburban ideal, it would seem. Wrong, wrote Robert Fishman in his influential book *Bourgeois Utopias*. That's the very decade when the suburban era ended. Fishman, a prominent historian of suburbanization, had not suffered an outburst of academic petulance. He had only recognized that the American suburb had made itself into something quite different from what it had promised to be over the preceding 200 years.

"Suburbness," in Fishman's formulation, meant a place that depended on the central city—as did the commuter-filled bedroom communities in the 1950s and the railroad and streetcar suburbs that preceded them as far back as the 1880s. The suburb had historically acted as a residential refuge from the city, which was the dynamic factory of capitalism, perpetually tearing itself down and building itself up to respond to the market's incessant demand and ever-changing whim. "Pure and unfettered and bathed by sunlight and fresh air," wrote historian Kenneth T. Jackson in *Crabgrass Frontier: The Suburbanization of the United States* (1985), these commuter retreats "offered the exciting prospect that disorder, prostitution, and mayhem could be kept at a distance, far away in the festering metropolis."

In the 1970s, however, American suburbia began to transform itself into a diverse and economically independent urban entity—a city, yes, but one that only looked suburban. "We lack a convenient name for this new city," Fishman wrote in his book, published in 1987—a problem we still have.

Americans have not fully come to terms with the dissonance between the historical suburban dream and what is emerging as a megasuburban reality. But it can hit you—if you consider it—as soon as you pull out of your driveway. Even the leafiest and most tranquil of cul de sacs today tends to be girdled by eight-lane arterials. And they lead to the net of beltways and crosstown expressways. As the congealed traffic of a five-lane side of the freeway, broad as a jet-plane runway, lurches round a curve, and a group of identically anonymous mirror-glass towers shimmers through the windshield haze, you may well ask yourself what happened to the uncomplicated life promised by the American Dream suburb?

The arrival of urban-style employment opportunities transformed the discreet bedroom communities into vast, contiguous low-rise urban landscapes, flowing over villages and

counties. The place names and political boundaries that once defined the small-scale, residential redoubts of the suburban era may remain, but, tied together by freeways and highway strips, they are now components in an economically integrated, wealth-producing and -consuming machine. Call it a megaburb.

It's not a pretty term; it's not meant to be catchy, but to accurately reflect a perceptual divide. Megaburbia is what happens when three quarters of a 282-million-person nation live in what we are used to calling suburbs. Many are places that have grown a hundred- or a thousandfold over the past 30 years. They are the places that have nurtured high technology, research, and advanced manufacturing. Now the beltway burbs and centerless low-rise cities overshadow the central cities in both population and economic activity. Silicon Valley, in California, the pharmaceutical belt in northern New Jersey, and the bistate suburbs of Washington, D.C., have built economies comparable to entire nations.

Aside from schools and libraries, suburbia has not placed much stock in the skills architects offer. But architects can help communities reconcile the innate urbanity attending diverse and expanding economic opportunity with the order and amenity that have always been at the root of the suburban dream. It won't be easy. Conflicting but deeply held values underlie the issues that endlessly rend communities—like land use, traffic, and open space.

Inescapable bigness

As sociologist Robert Parks saw it, "The city is a state of mind." Megaburbia is an economic and physical fact, but it is not a state of mind, which is why it's easy to think of it as something it's not. Most megaburban residents live in a smallish town or city politically, and believe in small-scale governmental and social institutions that are close to the people they serve. But nowadays, people think nothing of the dozens of towns, school districts, utility-service areas, counties—even a state line or two—they cross to run errands or make a journey to work. And yet the decisions made in all those political jurisdictions are what cause megaburbia to so unpleasantly intrude in the form of traffic, large-scale development, and runoff-clogged streams.

THE NEW MEGABURBAN EDGE—UP TO 60 PERCENT OF GROWTH—CONSUMES SQUARE MILES BY THE DOZEN.

The quintessential emblems of megaburbia are the commercial edge cities that Joel Garreau tried to make sense of in his book *Edge City: Life on the New Frontier* (1991). They're the wellsprings of megaburban wealth, but the suburban mindset has not come to terms with the steadily growing scale of American business and its invasion of the garden-city arcadia by the 20-story tower erected astride a parking garage housing 1,500 cars that one finds at Perimeter Center, Atlanta, or hugging I-5 at Costa Mesa, California. Those vehicles don't slip down spacious country byways, but pour onto massive arterials. A modest-size edge city ejects 100,000 autos into the feeder highway system, requiring no less than a 10-lane freeway—more often two or three.

Can the suburban dream (opposite) come to terms with L.A.-style reality (first spread)?

The endless edge

While the edge cities lie along the beltways, the hottest growth in megaburbia, its new edge, is often 15 to 30 miles farther out in what Robert Lang, director of the Metropolitan Institute at Virginia Polytechnic University, calls "edgeless cities" (in his book *Edgeless Cities: Exploring the Elusive Metropolis*, 2003). As the name implies, there's no edge, but there's also little sense of city. While edge cities sprawl over thousands of acres, edgeless cities consume dozens of square miles. "Individual components of Edgeless City often may have an identity (the 'so-and-so office park')," writes Lang, in a recent report for the Brookings Institution, "but collectively these places seldom strike an observer as unified in any meaningful way." Amid the remaining forests and farms, large-lot houses and residential ranchettes, the odd subdivision familiar to more suburbanized precincts, along with low-rise strips and big-box discounters, aimlessly splotch the landscape.

Edgeless city development, Lang argues, now comprises as much as 60 percent of growth in some metro areas, far outpacing that of edge cities, and is implicated in the giant leaps in land consumption that have been documented in fast-growing and slow-growing metro areas alike. This is what makes modern American suburbia even more ambiguous and apparently uncontrollable than it has ever seemed.

Orlando, for example, has built a megaburban freeway net that stretches well beyond built-up areas in an elongated 30-mile-diameter loop, but the hottest growth zones range much farther out, in what Bruce McClendon, until recently the chief planner of Orange County (which includes Orlando), calls "extreme suburbia." He adds, "It feels rural now, and you don't mind driving 25 miles to the Publix." But to him, this phase is incipiently suburban. "They've set themselves up for unending battles," he concludes. These edgeless developments also dump 100,000 unexpected commuters into the employment centers in Orange County, which McClendon expects to at least double by 2010.

The sprawl imperative

The edgeless city phenomenon makes clear that what academics might call "the megaburban project"—meaning the entire process by which it is created—must sprawl, which puts it on a collision course with the quality of life that has for so long animated the suburban dream. The fast-growing megaburbs like Charlotte, Houston, and Dallas build highways (or promise to build them) as far out as possible, opening as much land to development as possible. This assures a surplus of buildable area (and buyer choice), which keeps real estate costs from skyrocketing. As in Orlando, unfortunately, the edgeless-city newcomers add to the traffic woes in the employment centers of the maturing inner suburbs.

Opening huge territories to development also involves lots of jurisdictions, and they tend to compete for growth—especially commercial growth, because business picks up much of the tab for government services. Businesses benefit from inducements offered by officials: We'll reduce your taxes; we'll build the road you want; we'll acquire the site you want—





Building highways ahead of development adds to inner-suburb traffic woes.

HOW DOES THE ARCHITECT ENTER THE PITCHED BATTLES OF SUBURBIA—ZONING, OPEN SPACE, TRAFFIC AND TRANSIT?

the list of goodies is lengthy. This kind of competition is what keeps fueling the megaburban growth engine.

Should architects take sides?

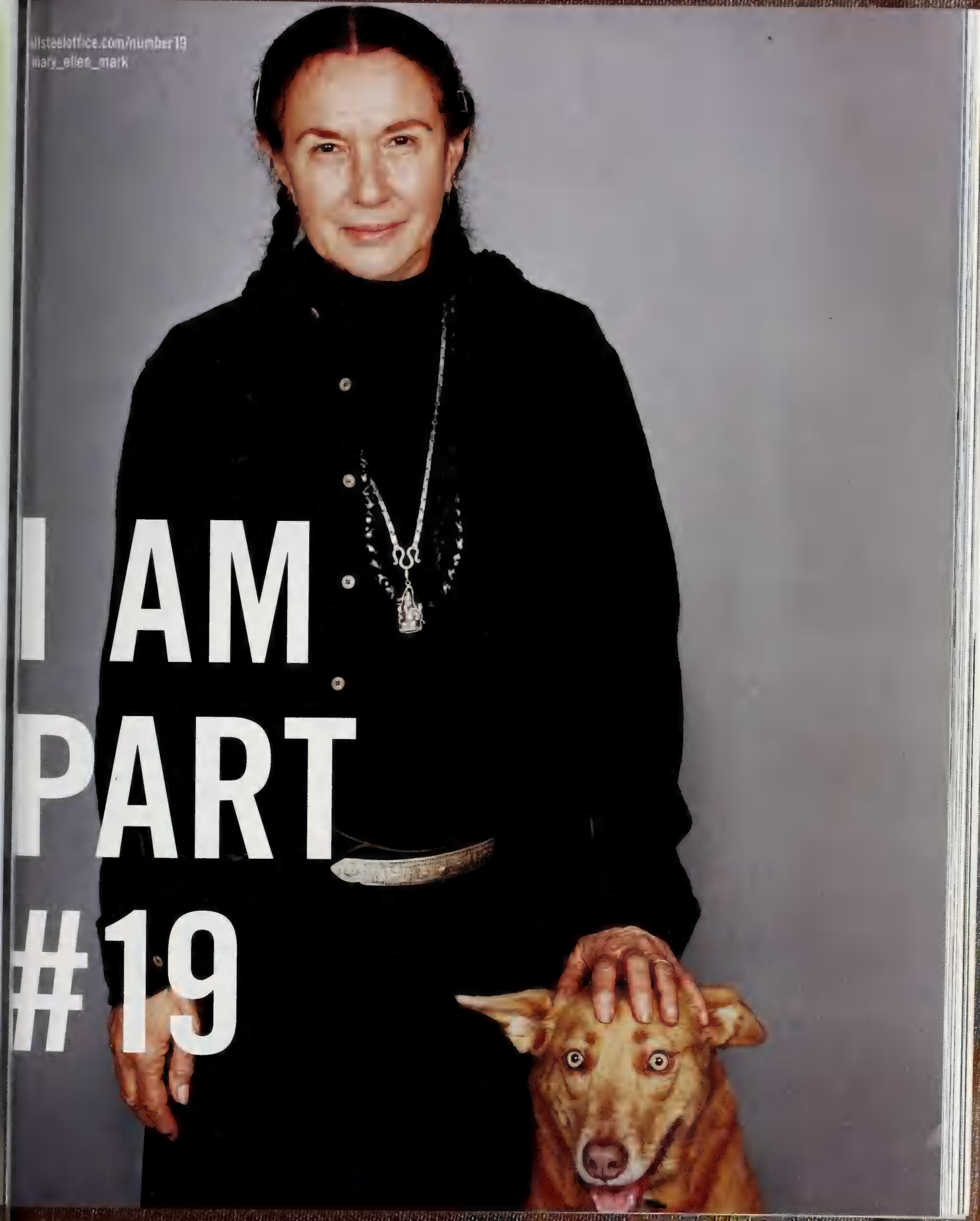
As suburbanites in mature communities—or should we call them megaburbanites—find the tranquility they sought upended by the dynamic, disorder-inducing forces of urban capitalism (in the form of the new corporate campus or mega-mall planned for the farm fields next door), they have organized an impressive array of means to fight the very kind of wealth-creating growth they have benefited from. Architects often get caught up in these battles. In a given town, some may side with neighbors rallying to stop the newest development. But others have fumed as the latest antisprawl regime stalls a key project. Still others stand passively by; the issues and solutions look political not architectural. But sometimes the political *is* the architectural. First, consider that most of the pitched battles in modern suburbia concern quality of life: the zoning debates, the loss of open space, farmland preservation, design-review dramas, traffic and transit. Architects and other design professionals should have something to say about that.

Growth control: resist it or design it?

There's no clear road map, but considering big-ticket conflicts through a megaburban lens may offer a means to find answers. The business-as-usual process of suburban growth sparks major conflicts in places where quality of life is intrinsic to urban identity. To avoid "becoming L.A.," Portland, Oregon, and its suburbs (most prominently among several major cities) have drawn a line and declared that everything inside can be urban while the area outside it must remain rural. The urban-growth boundary has done exactly what advocates have said it would—preserving close-in open space while driving density and transit use up.

This does not mean it has lacked controversy. It trumps individual property rights, cry libertarians—a potent argument in the independent-minded, live-and-let-live West. Oregon has committed itself unequivocally to the notion that the people, not

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individual landowners, will determine what becomes urban. It has declared war on the traditional deference to landowner choice (the idea that everyone's entitled to build pretty much what they want anywhere) that has turned suburbia into megaburbia.

The growth boundary also drives up housing costs, assert free-market critics like the Reason Public Policy Institute, "by artificially restricting the land supply." But the supply of housing could still outstrip demand (key to keeping it cheap) if developers find ways to build at higher densities economically. And architect Gary Reddick, of Sienna Designs, for one, has come to the rescue. He has persuaded owners to make better use of supermarket parking lots by erecting housing over them [RECORD, December 2000, page 148]. Architects in costly cities like San Francisco, Los Angeles, and Boston have built innovative, high-density developments (many for the "affordable" market) that offer exportable models to suburbs growing denser [see RECORD, October 2002, page 227, and February 2002, page 149]. Similarly, if the reduced costs of supplying infrastructure to infill development are passed onto taxpayers in the form of lower taxes or better services, there will not be a "price" to be paid for reducing the supply of developable open land.

Breaking edge-city gridlock

For most people, the chief suburban evil is traffic, which gets ever worse. Everyone—experts and the traffic-weary commuter alike—knows that megaburbia cannot build traffic lanes fast enough to accommodate travel growth. (Nor is there enough money. See "Missed Connections," page 117). Among urban analysts, there has long been little disagreement about the solution: If land-use decisions cannot be coordinated with transportation planning, there will never be a solution.

Why has so little changed? Orlando's Orange County attempted to focus growth within fiscally and environmentally responsible "urban-service boundaries" (a less comprehensive and therefore less politically volatile solution than Portland's). The developers moved out to the next county, which welcomed growth. One local official summed up surrounding towns' responses to Orlando's attempts to slow scattered development: "The big dog is not going to tell *us* what to do." New Urbanist architects have been in the forefront of the movement to remake the suburban ideal around transit-oriented nodes of development. But no effort in the states compares to Vancouver's vigorous coordination of development, which has spurred high use of its SkyTrain (page 132).

NEW DEVELOPMENT MODELS CAN INCREASE DENSITY OR ENCOURAGE TRANSIT IF THEY ENGAGE SUBURBAN FEARS.

Well-meaning architects and planners have failed to convince towns and cities to link transportation and development as long as anything-goes jurisdictions farther out are prepared to give developers and relocating businesses whatever they want—they're hungry for the tax receipts that development will bring. So tax-and-spending equity must inform the architect's vision.



In today's amorphous megaburbia, the rural edge does not remain crisp for long.

New Urbanists have worked with often-reluctant developers, with the result that few such communities have convincingly broken the conventional development mold. The "town center" nearing completion at Avalon Park, outside Orlando, is a pale stage-set imitation of one of Duany and Plater-Zyberk's most ambitious early efforts. Similarly, the second generation of Kentlands, in Maryland, has reverted to the vinyl-sided norm.

Given the aversion to innovation that prevails in the real estate industry [RECORD, June 2003, page 98], it's still tough to create new development models that engage suburban fears while lowering land consumption and encouraging greater use of auto alternatives. It would be nice if the national government—or states, or municipalities—would underwrite innovative demonstration projects, as is the norm in places like Germany—the International Building Exhibitions in Berlin being the most famous, but only one among many [see RECORD, April 2001, page 94, and February 2002, page 156]. It will take a concerted effort by architects and allied activists to create these opportunities.

For suburbs to transcend megaburban dilemmas won't be easy, but the stakes are only getting higher. In an unprecedented way, quality of life is implicated in economic success. Architects are uniquely qualified to unite the too-often-at-odds aspects of the urban and the suburban. It could prove one of the chief challenges of the coming decade. ■

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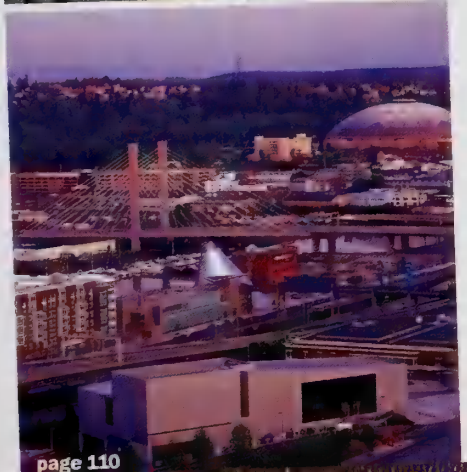
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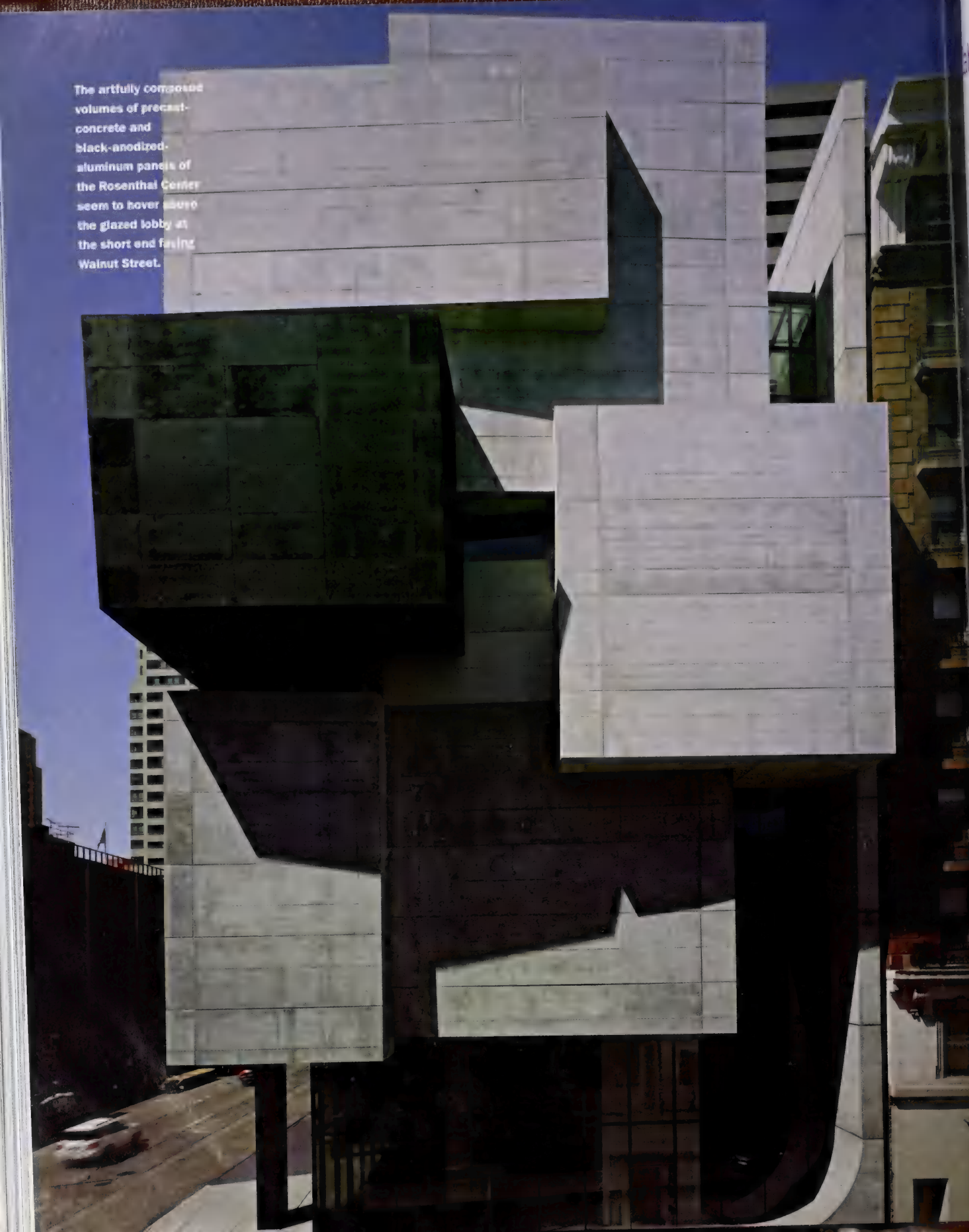

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Design of Cities

WITH CITY PLANNING IN ECLIPSE, ARCHITECTS MOLD URBAN IDENTITY ONE PROJECT AT A TIME

One hundred and 10 years ago, the Chicago World's Fair promised a gleaming Beaux-Arts city—an architect-designed dream in white plaster. Today, firms quietly fill the vacuum left by the eclipse of big-idea planning as they learn that buildings can have an outsize influence on their surroundings. The power of architecture to project urban energy beyond a given site is explicitly recognized in the project coverage this month. Zaha Hadid's Contemporary Arts Center in Cincinnati signals an emerging culture of creativity in a troubled city that didn't seem to want it. In Philadelphia, Wood + Zapata prove that even a parking garage—if artfully designed—helps to renew a scarred relationship between town and gown. The Tacoma Art Museum, Washington, adds critical mass to an emerging cultural district in a town that was down and out only a few years ago. Even as introverted a project as Munich's Five Courtyards energizes a dense urban core. Yet challenges abound. Sclerotic bureaucracies and politicized funding hinder the community focus that adds lasting (and increasingly well-documented) value to transportation projects. Nobody designed the formless megaburbs and the edgeless cities even as they have become landscapes torn by perpetual land-use battles. Such places have much to gain by giving designers a bigger role, but there's no road map to success—yet. *James S. Russell*



The artfully composed volumes of precast-concrete and black-anodized-aluminum panels of the Rosenthal Center seem to hover above the glazed lobby at the short end facing Walnut Street.

Zaha **Hadid** revs up a tight site in Cincinnati with the **ROSENTHAL CENTER FOR CONTEMPORARY ART** and draws a crowd



By Suzanne Stephens

As a highly charged cultural statement by Zaha Hadid, a certifiably avant-garde architect, Cincinnati's new contemporary art museum fits almost too discreetly into its conventional urban setting of Modern high-rises and low boxy buildings; small-scale, turn-of-the-last-century brick structures; and an Art Deco hotel. You could even call it "contextual," anathema these days to the high-design crowd and hardly expected as the first new building in the United States by the inventive London-based architect. Named the Lois & Richard Rosenthal Center for Contemporary Art, the museum, which cost a modest $20.5 million to build, hardly seems related to the zoomy foreign objects rendered in Hadid's seductive drawings or previously published projects: most famously, the extremely angular Vitra Fire Station (1993), and more recently, the sleekly contoured Bergisel Ski Jump at Innsbruck [RECORD, January 2003, page 76]. Instead, the Rosenthal Center sits sedately on an 11,000-square-foot corner lot downtown. Its main, Sixth Street facade is restrained, with horizontal, windowless volumes of precast-concrete and black-anodized-aluminum panels effortlessly floating over glass voids.

To be sure, the action heats up at the corner of the building, where the cantilevered projections of the blocklike elements in this steel-framed building become more defined. On the center's short end, facing Walnut Street, the vertically stacked masses hovering above the glass base seem more highly charged, almost defying gravity. But in spite of the power of this free-floating composition, architectural aficionados looking for the kaboom of Gehry's Bilbao Guggenheim may be bewildered. At first glance, the building seems to owe more to Marcel Breuer's later work, say the Whitney Museum of American Art (1966) in New York City, or the Armstrong Rubber Building (1969) in New Haven, Connecticut, than to Vitra. Nevertheless, whereas Breuer seemed merely to long for a weightlessness of opaque masses, Hadid and project architect Markus Dochantschi achieve it with a force and elegance that is admirable, if subtle.

Hadid's major move occurs inside. The first clue to the spatial drama that lies within is the expansively glazed corner lobby, with its poured-in-place concrete floor that just keeps going, even after it hits the wall, and curves upward like a skate- or snowboarding halfpipe. As the visitor follows this "urban carpet" to the rear of the lobby, he or she discovers the coup de théâtre—an attenuated zigzag of painted black steel ramp-stairs ("stramps"?) slicing through the space to the top skylight about 100 feet above. The effect is dizzying, especially since the exterior elevations hardly prepare you for the internalized vertical void. Indeed, you might have thought that, like Breuer's Whitney Museum, you would find a stack of loftlike gallery levels inside. Wrong.

Circulation is Hadid's forte, particularly the expression of the ramp, as we saw in the *Mind Zone* installation in the Millennium Dome [RECORD, December 1999, page 118], or most recently in the ski jump. This *promenade architecturale,* in Le Corbusier's words, is pushed to the hilt at the Rosenthal Center. As you ascend, you sense the shallowness of the risers (4.5 inches high) and the depth (16 inches) of the clear anodized aluminum treads. In this vertiginous glide upward, you don't seem to be climbing. At each level, the ramp stops so visitors move off on a jagged itinerary through the galleries until the full circuit has been made, and then ascend (or descend) to the next floor. The center has placed the children's "UnMuseum" (with glazing) at the top of the six levels, so that young museumgoers come into contact with the galleries.

Project: *Lois & Richard Rosenthal Center for Contemporary Art, Cincinnati, Ohio*
Design architect: *Zaha Hadid Architects—Zaha Hadid, principal; Markus Dochantschi, project architect; Ed Gaskin , assistant project architect*
Client: *Contemporary Art Center—Charles Desmarais, director*
Architect of record : *KZF Design*
Consultants: *THP (structural); Arup (acoustical); Heapy Engineering (m/e/p)*

Cincinnati: Cultural Capital

Culture has been Cincinnati's strong suit since its early settlers created an art museum, art academy, symphony orchestra, opera, and zoo that were among the first west of the Alleghenies. The city has buildings by Cass Gilbert; John Russell Pope; Skidmore, Owings & Merrill; Cesar Pelli; and Kohn Pedersen Fox, along with performing arts venues by HHPA and Michael Graves.

The town features a suspension bridge by John Roebling built in 1867, a precursor to his Brooklyn Bridge. And here the first reinforced-concrete skyscraper was erected in 1902 (the Ingalls Building, by Elzner & Anderson).

Although local leaders recently allocated $2.2 million to support capital projects of arts institutions, they had also spent tax dollars on two new football and baseball stadiums to replace a combined one built less than 30 years ago. The stadiums are handsome enough, but they dwarf the downtown and cut it off from the river, which used to be its lifeblood. Twenty years ago, the desire to turn Cincinnati into an upstart boomtown like Atlanta caused the city to expand the convention center across a main artery. Attempts to attract downtown development while the city was losing population led to banal office buildings, and historic buildings were emptied or downgraded. And with office workers separated by several blocks from stores and shops, the downtown retail center died—ironically, during the city's bicentennial in 1988. (Because city planners built a skywalk system linking stores to hotels and office buildings, the closing of one department store set off a chain reaction.)

For the past 15 years, the downtown that survived postwar sprawl languished. Then in 2001 came riots triggered by police brutality, which further exacerbated racial tensions. Many Cincinnatians had not been downtown for two years, but come they did to the new Rosenthal Center for Contemporary Art. A startling 10,870 people showed up for the opening festivities in late May. A few private citizens and some generous donors had done what corporate leaders, planners, and the city council could not. Building courageously—and getting praise for it—has brought self-confidence back to the city.
Jayne Merkel



Circulation and installation space—the two main components of the museum architecture—were inextricably linked in Frank Lloyd Wright's Guggenheim Museum in New York to create a unified, kinesthetic experience viewing art on a spiraling path around a skylit atrium. Hadid's response is more along the lines of Richard Meier's approach at the High Museum of Art in Atlanta (1983). In both of these schemes, the atrium circulation is kept distinctly separate from the art installation, although the visitors in both follow a defined trajectory. At the High, the ramps are curved around the rotunda; at the Rosenthal Center, the straight line of the ramps, offset from each other as they cut through the atrium space, makes the processional experience more direct.

While Hadid's separation of vertical circulation from the display solves problems encountered with Wright's Guggenheim and seems faster than Meier's approach, the criticism by artists that high-design architecture competes with the art on display probably will not go away with her solution. The Rosenthal Center does not offer rectilinear loftlike galleries that can be easily partitioned depending on the size of the artwork. Its "flexibility" comes from providing a variety of differently shaped spaces—from large, 25-foot-high galleries to nichelike ones.

Because the museum has no permanent collection, Hadid didn't have to design her galleries around particular works of art. The museum operates as a *Kunsthalle* for temporary exhibitions, as it has since 1939,

FUTURE SHOWS, GOOD OR BAD, WILL BE CHALLENGED BY HADID'S DRAMATIC ARCHITECTURE.

when it was founded as the Modern Art Society. Yet the curators have to carefully select the art to fit in the defined spaces. As it happens, the current exhibition, *Somewhere Better Than This Place: Alternative Social Experience in Spaces of Contemporary Art*, organized by senior curator Thom Collins, demonstrates the strengths and weaknesses of a varied, nonuniversal space. The most successful installation, bar none, is Inigo Manglano-Ovalle's *Cloud Prototype for an Edition of 3*, an aggressively voluminous object clad in titanium that is suspended partially over the atrium at the fourth level. Its curvaceous, shiny shapes offer a dramatic counterpoint to the crisscrossing black stair-ramps. On the other hand, a yurtlike house of recycled material, *El Retiro Roundhouse*, by the Slovenian artist Marjetica Potrc, seems stuck into its cramped location on the fifth level, where it blocks sight lines as well as gallery circulation. Other parts of the exhibition, of the installation-art-as-entertainment genre (hot tub or café, both in use) only distract.

In the struggle between art and architecture, when art wins, often architecture loses. Since the sound from Jane Cardiff's *Forty-Part Motet* piece with 40 speakers, installed in a fifth-level gallery directly at the top of the stair, would travel too easily into the atrium, the museum installed portieres of felt strips over the entrance and exit to the ramps. This unfortunate maneuver (not that there were many possible alternative solutions) adds a klutzy visual note. Future shows, good or bad, arguably will be challenged by Hadid's architecture.

The question is, should there be a fight between art and architecture? It is rewarding when both can mutually reinforce each other, as seen in some exemplary museums with permanent collections, where the balance of daylight and artificial light is masterfully achieved to stunning effect, such as Louis Kahn's Kimbell Art Museum (1972) in Fort Worth, or Renzo Piano's Menil Collection (1987) in Houston. Hadid's temporary art galleries aren't meant to compete on this level. Nevertheless, the gallery lighting is very conventional, all the more noticeable because of the unconventional angles of the walls. Clearly, Hadid's mission is not to advance the evolution of the

The restraint of the strongly horizontal facade of the 87,500-square-foot art center on Sixth Street (right) contrasts dramatically with the vertical thrust of the interior atrium (above). The concrete lobby floor merges with the curved wall at the rear of the lobby, like a snowboarding halfpipe. Called an "urban carpet," it is intended to draw visitors to the stairs. Slots of fiber-optic lighting embedded in the floor and sidewalk outside give the space an eery glow at night.





Although the rear wall of the museum is poured concrete (this image), the structural frame is steel, with steel columns encased in concrete. The fourth level of the atrium is punctuated by Inigo Manglano-Ovalle's *Cloud Prototype for an Edition of 3* (opposite).



SECTION A-A

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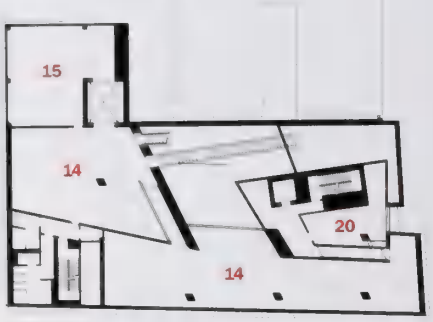


SIXTH FLOOR

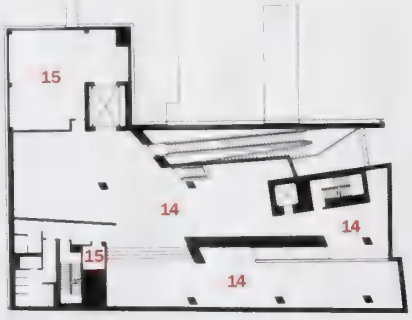
1. *Lower-level lobby*
2. *Performance space*
3. *Electrical equipment*
4. *Mechanical*
5. *Kitchen*
6. *Workshop*
7. *Main entrance*
8. *Lobby*
9. *Museum shop*
10. *Reception*
11. *Coatroom*
12. *Loading*
13. *Receiving*
14. *Gallery*
15. *Storage*
16. *Staff lounge*
17. *Offices*
18. *Boardroom*
19. *Terrace*
20. *Members' lounge*
21. *Children's museum*
22. *Penthouse*
23. *Atrium*



THIRD FLOOR



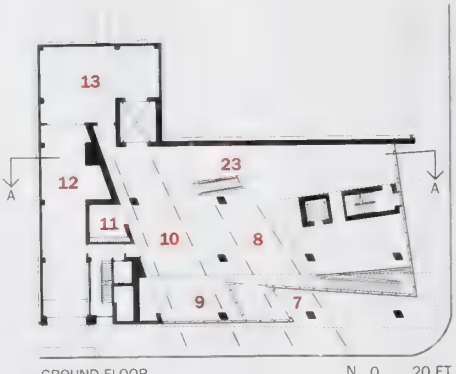
FIFTH FLOOR



SECOND FLOOR



FOURTH FLOOR



GROUND FLOOR

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LOWER LEVEL

Galleries offer flexibility through spaces of different heights and sizes, such as the large gallery where an art work by Cai Guo-Qiang is installed (right). Ceilings are covered in drywall, metal grating, or perforated metal panels, depending on acoustical needs for video. Performance pieces can also take place in the black-box theater on the Rosenthal Center's lower level.





The stepped ramps appear to float between the volumes. In most cases, the ramps, with steel-box beams forming the balustrades, rest on the steel floor edges; in one instance, a landing is unobtrusively anchored to a steel beam cantilevering out of the concrete rear wall.

museum gallery as a sacred space. In other words, the Rosenthal Center should not be judged as a prototype for gallery design. With changing shows and inconsistent quality of art, it's better to evaluate the museum as a touristic magnet introducing people to the experience of "Architecture."

So, is having Hadid design a small, 87,500-square-foot museum in a midwestern state just part of the "Bilbao Effect"? Ironically, Ohio was going after far-out architecture before Gehry's Guggenheim Bilbao opened in 1997: look at Peter Eisenman's Wexner Center, built in 1989 at Ohio State University, in Columbus. For its part, Cincinnati already had begun to create its architectural *Wunderkammer,* or cabinet of curiosities, before Hadid arrived. The University of Cincinnati now has Frank Gehry's Vontz Center for Molecular Studies [RECORD, February 2000, page 81] and Peter Eisenman's Aronoff Center for the Design and the Arts (1996) added to its campus, with buildings by Thom Mayne and Bernard Tschumi under way. Hadid's commission for the Rosenthal Center, therefore, was a natural. It resulted from an RFQ sent by Charles Desmarais, director of the parent institution, the Contemporary Arts Center, who convinced the city to buy and clear the site if he could raise an initial $5 million. After the RFQs, the list was whittled to a dozen architects, then to a shortlist of Bernard Tschumi, Daniel Libeskind, and Hadid.

In the final analysis, the Rosenthal Center succeeds as both a calm civic gesture and an example of the imaginative possibilities of architecture. It presents an object that provokes, yet also sits comfortably amid its surroundings. As it draws you in and up and through the skylit atrium and labyrinthine galleries, it delivers, as few buildings do, the continuous and exhilarating experience of moving through space in time. Next comes Zaha Hadid's art center for Bartlesville, Oklahoma [RECORD, June 2003, page 30]. Here, adjacent to Frank Lloyd Wright's Price Tower [RECORD, July 2003, page118], Hadid has designed a 58,000-square-foot, two-story art center. The horizontal takes over, and if built as designed, it should generate more heat for the town, and for Hadid's future work in the U.S. ■

Sources

Architectural and structural concrete: *Baker Concrete Construction*
Architectural precast concrete: *Concrete Technology*
Custom metal wall panels: *A. Zahner*
Standard metal panels: *Centria*
Glass curtain-wall system, glazing, skylight: *Harmon*
Structural steel and step/ramp-stair: *Southern Ohio Fabricators*

For more information on this project, go to Projects at **www.architecturalrecord.com**.



The Walnut Street facades of the garage (this page) and the cinema (opposite) engage pedestrian Locust Street, while ... 's café has its ... entry (opposite, bo...

Wood and **Zapata** brings new life to a run-down block in Philadelphia with two buildings, a **GARAGE** and a **CINEMA**, that energize the street

By Clifford A. Pearson

The multiplex cinema and the parking garage—those icons of 20th-century American mall culture—rarely win much praise from urbanists. More often than not, they're seen as enablers of sprawl or accessories to the crime of homogenizing the built environment. Less notorious siblings of big-box stores and discount chains, they nonetheless share the stigma of formulaic design, mindless commercialization, and elephantine scale. The Bridge Cinema and Hamilton Square Garage in West Philadelphia, however, show that these architectural beasts can be tamed, even transformed into urban attractions.

Developed by the University of Pennsylvania at the fraying periphery of its campus, the two buildings face each other across Walnut Street, the area's main commercial way, and engage both the academic community and local residents. "This used to be the edge; now it's a gateway," says Omar Blaik, the university's vice president of facilities and real estate services, referring to the buildings' location at the intersection of 40th Street and Walnut. For much of the past three decades, Penn had turned its back on its poor neighbors, fearing crime and urban decay. "What you saw was a university that wasn't comfortable being a part of Philadelphia," admits Blaik. In 1993, though, the university hired a new president, Judith Rodin, who grew up in Philadelphia and committed the school to improving its relationship with neighboring communities.

The new garage, which replaces a surface parking lot, and the cinema, which stands on the site of a former Burger King, are the latest efforts by the university to turn a dangerous border zone into a vibrant commercial district. The projects, which moved forward as a pair, are not only reviving a particular neighborhood but are redefining their building





Projects: *Hamilton Square Garage and the Bridge Cinema De Lux, Philadelphia*
Owner: *University of Pennsylvania*
Architect: *Wood and Zapata—Carlos Zapata, partner in charge and design principal; Benjamin T. Wood, AIA, partner in charge; Ron Crawford, Victoria Steven, project architects for garage; Caleb Mulvena, project architect for cinema; Steven Thomas, assistant project architect for garage; Helen Ferguson Crawford, Lasse Luetjens, Anthony Montalto, Caleb Mulvena, Sapir Ng, Paul Wang, Delphine Yip, design team for garage; Ron Crawford, Anthony Montalto, Victoria Steven, Steven Thomas, Paul Wang, design team for cinema*
Associate architect (garage): *spg3—Richard Gelber, AIA, Irv Shapiro, AIA, partners in charge*
Architect of record (cinema): *spg3—Richard Gelber, AIA, Irv Shapiro, AIA, partners in charge*
Interior architects (market): *Hugh Boyd, AIA; spg3*
Interior designer (cinema): *Powerstrip Studio—Dayna Lee, partner in charge*
Engineers (garage): *Timothy Haahs & Associates (structural); Marvin Waxman Consulting Engineers (mechanical); Mulhern Consulting Engineers (electrical)*
Engineers (cinema): *Brecher Associates (structural); Waxman (mechanical); DLR Group (electrical)*
Consultants (garage): *Danadjieva & Koenig (landscape); Fisher Marantz Stone (lighting)*
Consultants (cinema): *Olin Partnership (landscape); Lighting Design Collaborative (lighting); Cavanaugh Tocci Assocs. (acoustical)*
General contractors (garage and cinema): *R.M. Shoemaker; INTECH Construction*

PHOTOGRAPHY: © HARRY HALLOW

University changes its ways by reaching out to its neighbors and acting as developer

Once called McDeath for its fast-food joints and high crime rate, the area around 40th and Walnut Streets in West Philadelphia now stands as an example of urbanism on the upswing. The transformation didn't happen overnight but resulted from a long-term effort by the University of Pennsylvania to invest in the communities neighboring its campus and build projects that would serve students, faculty members, and local residents.

"We realized we couldn't compete with other Ivy League schools if we didn't improve the city around us," says Omar Blaik, vice president of facilities and real estate services for the university. So after years of trying to buffer itself from its inner-city neighbors, Penn started reaching out in the mid-1990s. It renovated campus buildings that turned their backs to Walnut Street by adding new entrances, windows, and street-level shops. It gave them street addresses, a small but significant gesture that said these buildings belong to the city, not just the campus. It turned parking lots into mixed-use developments with stores, offices, restaurants, and sidewalk cafés. And it upgraded open spaces so they function as urban parks, not voids in the city's fabric.

In 1998, the university opened Sansom Common, a 300,000-square-foot complex with a Barnes & Noble superstore, a 260-room hotel, and a variety of retail outlets. Designed by Elkus/Manfredi Architects on a site three blocks east of 40th Street, the project proved the university could be a successful entrepreneur and urban redeveloper.

West on Walnut Street, though, remained dicey until the Hamilton Square Garage opened in May 2001 with its snazzy, 24-hour Fresh Grocer supermarket on the ground floor. In November 2002, the Bridge Cinema opened across the street, solidifying the area's transformation and bringing more people to the neighborhood in the evening.

Although a McDonald's remains at one corner of 40th and Walnut (much to the university's chagrin), the new garage and cinema projects have prompted the city of Philadelphia to start renovating an old public library that had been boarded up for years on one of the other corners. Adjacent to the library, the university has just finished turning a small muddy field into a grassy park open to everyone.

A few people have criticized Penn for being such an eager developer of for-profit properties, but its projects along Walnut Street have clearly acted as urban catalysts and cater to area residents as well as the academic community. "These are truly democratic places where everyone can come," says Anthony Sorrentino, director of external relations for the university and a local resident, walking through a crowded aisle of the Fresh Grocer and checking out the salmon fillets in the fresh-fish counter. *C.A.P.*





Curving elements on the garage and cinema speak to each other across Walnut Street (this page). On 40th Street, glass, metal mesh, and perforated aluminum create a dynamic elevation for the garage (opposite).

1. *Garage*
2. *Cinema*
3. *Former Unitarian church*
4. *Existing retail*



types by employing creative combinations of uses and innovative design.

To allay community fears of the university taking over the neighborhood, Penn made it clear from the beginning that these new buildings would not be mistaken for the typical redbrick structures found on campus. "Our intention was to find an architect who could do something different and exciting here," explains Charles Newman, Penn's university architect. Although its business partners differed on the two projects, Penn selected Wood and Zapata of Boston to design both buildings and give the intersection a strong visual identity. The Philadelphia firm spg3 served as the local architect on both projects, and Powerstrip Studio of Hollywood, California, designed the interiors of the cinema.

To make the garage work in its urban context, the university rewired the basic program—adding a 24-hour supermarket to the street level and part of the second floor. Wood and Zapata highlighted the different functions in plan and materials as a way of breaking down the bulk of the 9-story, 295,000-square-foot building and giving each component its own identity. So the 32,000-square-foot supermarket bulges out toward Walnut Street with a sleek curtain wall made of clear and opaque green glass, while the parking floors wrap themselves in bands of stainless-steel woven mesh. On 40th Street, a curving section of curtain wall pushes beyond the envelope of the parking structure, revealing the market's high-ceiling shopping space on the ground floor and a conveyor belt for shopping carts on the second. Although the market has decided not to use the belt, the architects designed it to help customers bring groceries to

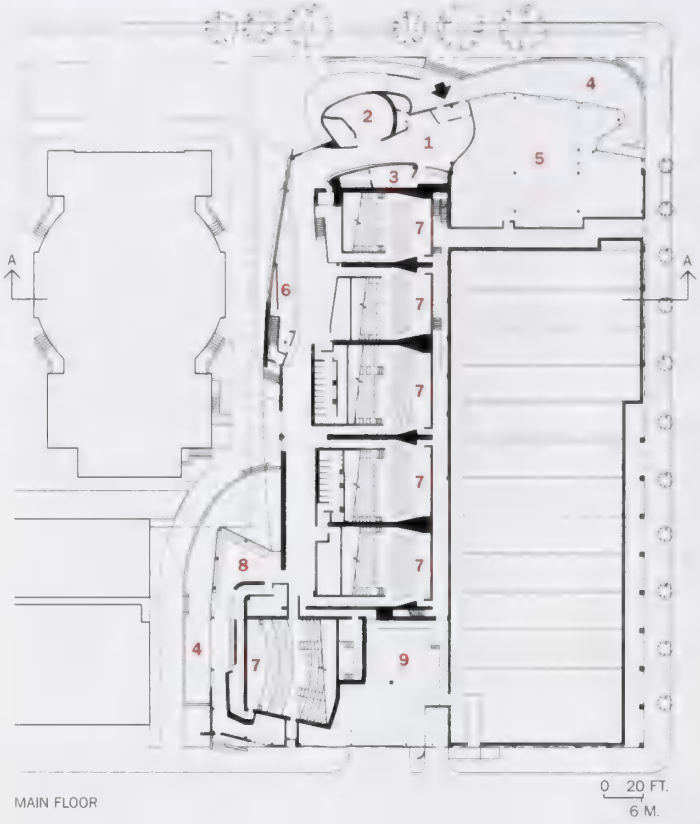
THE UNIVERSITY REWIRED THE BASIC PROGRAM OF A GARAGE, ADDING A 24-HOUR SUPERMARKET.

their cars. The market's operator, Fresh Grocer, has found that much of its business is walk-in traffic and that those who come by car would rather take their carts on the elevator than put them on the conveyor belt.

At first, the client thought building codes required the garage to be set back 10 feet from its neighbor to the west. But the architects discovered they could push it within 2 feet of the adjacent structure. "This allowed us some room on the east to activate the 40th Street elevation,"



SECTION A-A



MAIN FLOOR

CINEMA

1. *Lobby*
2. *Media bubble*
3. *Box office*
4. *Terrace*
5. *Restaurant*
6. *Concessions*
7. *Theater*
8. *Café/bar*
9. *Loading*

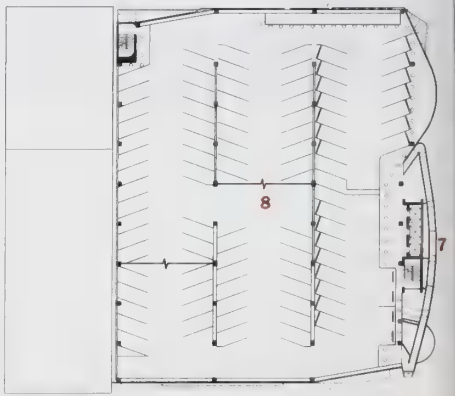
Part of the challenge of designing the two buildings was reconciling the much larger garage structure with the cinema. (The plans here are shown at different scales.) Outdoor spaces on Walnut Street and curving elements on the lower floors help the buildings relate to each other. In addition to commercial theaters on the main floor, the cinema offers space on a lower level for the university's film and video center.

GARAGE

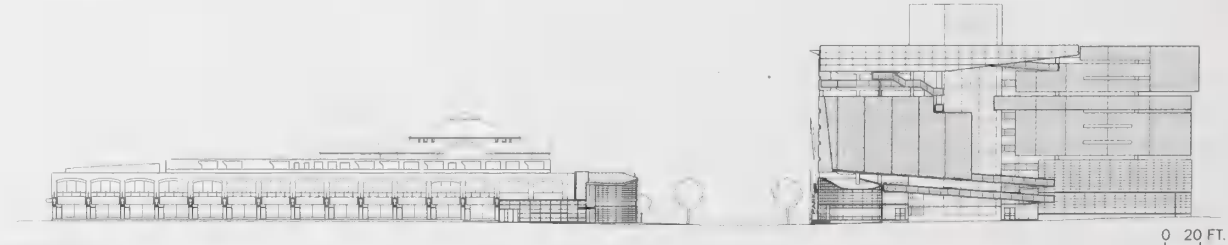
1. *Lobby*
2. *Market*
3. *Café*
4. *Outdoor seating*
5. *Garage entry*
6. *Loading*
7. *Pedestrian ramp*
8. *Parking*



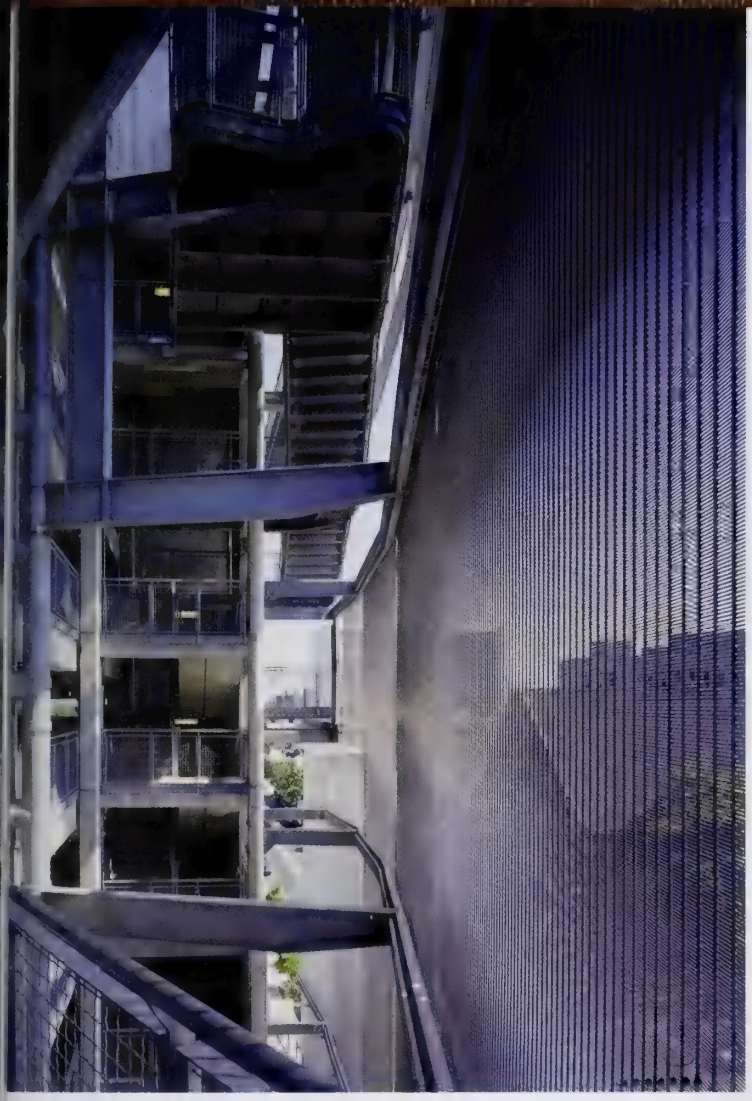
FIRST FLOOR



THIRD FLOOR



EAST SECTION





Stairs and ramps pulled away from the bulk of the 765-car garage work with metal mesh and glass to define a vertical space that can be used for presenting student artwork (above left and right).

explains Carlos Zapata, the design principal. Pulling a galvanized-steel fire stair and ramps away from the posttensioned concrete slab structure enlivened this facade with a play of forms and created a layering of materials that veil the building's bulk in a series of metal scrims. It also let Zapata carve a vertical slot of space between the bulk of the building and the ramps—a space that heightens the translucency of the metal-mesh skin by bringing daylight behind it. On the Walnut Street elevation,

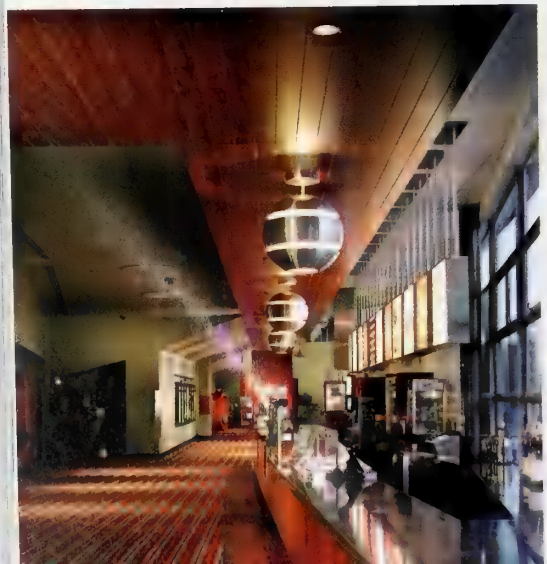
THE ORIGINAL CLIENTS AND DESIGNERS OF THE CINEMA ENVISIONED A NEW KIND OF FILMGOING EXPERIENCE.

Zapata envisioned a large metal screen on which images could be projected from the cinema across the street. The screen, which would be set within the building's bands of metal mesh, has not yet been installed.

Like the garage, the cinema project benefited from an unusual combination of uses, which in turn created architectural opportunities. Originally planned with Robert Redford's Sundance Films and the General Cinemas chain of theaters, the facility was to highlight independent films and have a film archive, restaurant, and café. A creative team that included The Moderns (a design and branding firm in New York City) and Steven Winter Associates (an architecture and engineering firm with an expertise in green design), in addition to Wood and Zapata, imagined a new kind of filmgoing experience, says Janine James, the president of The Moderns. Instead of waiting in line, seeing a movie, then leaving, people would reserve seats, relax at the café, see a film, then stay on the premises to talk about what they saw while eating at the restaurant or enjoying a drink at the café. But General Cinemas went bankrupt during construction of the building, and the new theater tenant, National Amusements, brought in its own interior designers and modified the original ideas. National Amusements changed some of the finishes and didn't follow through on the project's ambitious environmental agenda (which included specifying recycled materials and reusing gray water), but it didn't alter the basic architectural scheme.

Set between an existing two-story retail block and a building that had once been a Unitarian Church, the cinema could have been tucked almost out of sight, but everyone involved in the project wanted it to have a strong urban presence. So Zapata pulled its front elevation out to the intersection of Walnut and 40th, which required knocking down a portion of the retail building. To connect moviegoers to the outdoors as much as possible, the design team located the corridor to the six theaters on the western edge of the building and glazed this elevation so it has views of

The architects wanted to wrap the curving element protruding from the cinema's main entrance in mahogany and glass, but the new tenant used stucco instead (left and opposite). Daylight and outdoor connections are important elements in both the cinema lobby (bottom left) and the café (bottom right).







a narrow garden. The designers also created a separate entrance to the café on Locust Street, so it could attract outside customers, not just filmgoers.

For the main facade on Walnut Street, Zapata designed a sinuous construction of mahogany and steel without any of the usual movie-theater signs. "The idea was to draw people in with architecture, not neon," says Zapata. Another draw was to be a bubble-shaped room planned to emerge from the lobby that would have had a mahogany-and-glass skin allowing people on Walnut Street to look inside and see videos playing. While the bubble has been built and serves as a venue for student videos and movie trailers, the new tenant finished it with stucco and no glass. So its role as a roadside attraction has been lost.

Very few people, though, know anything of what might have been. What they notice is a neighborhood transformed—from seedy to buzzing. Instead of fast food and empty lots, they have snazzy design and establishments that stay open late at night and invite everyone to linger. ■

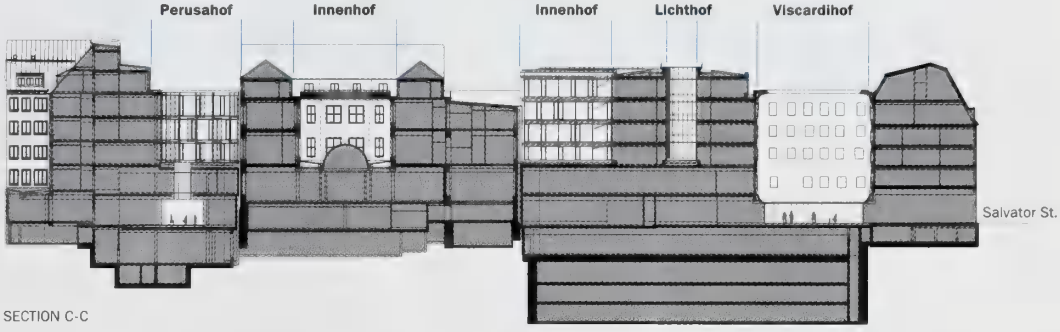
Sources (garage)
Steel facade framing and ramps: *RK Metals*
Concrete decks and cast-in-place concrete: *Carson Concrete*
Curtain wall: *APG*
Woven metal mesh: *GKD*
Perforated aluminum: *McNichols*
Aluminum panels: *Alucobond*
Glazing: *PPG*
Aluminum storefront entrances: *Arch Aluminum & Glass*
Aluminum sliding doors: *Stanley*
Sources (cinema)
Curtain wall: *Crittall*
Stainless-steel woven mesh: *GKD*
Roofing: *Siplast Veral Aluminum Roofing*
Wood windows: *Duratherm*
Steel windows: *Crittall*
Glazing: *PPG Solex*
Acoustical ceilings: *Armstrong*
Plastic laminate: *Laminart*
Floor and wall tile: *Daltile*
Resilient flooring: *Amtico; Armstrong*

For more information on this project, go to Projects at **www.architecturalrecord.com.**



Leading from hanging gardens to the street, the Perusahof is flanked by the *Kunsthalle* cafe and shop, for which Herzog & de Meuron designed all the furniture and light fixtures.

Herzog & de MEURON transform a Munich city block, turning traditional street facades into a mask for FÜNF HÖFE'S inner realm



SECTION C-C

By Sarah Amelar

We were searching for a European answer to the American mall," says architect Jacques Herzog of his recently completed Fünf Höfe (Five Courtyards) in Munich. "In American shopping malls," he adds, "you're always in a covered place, up on a high level, with no foot on the ground, no connection to the sky, no authenticity. At Fünf Höfe, we tried to establish a model that would restore the real—bring in the sky, the ground, and a realm of sensory experience." Certainly the project succeeds in sparking the senses—as you pass, say, beneath its exuberant hanging garden or, in another area, along its aluminum-mesh wall, washed with sunlight and flowing water. But however innovative or unorthodox the design may seem, it owes much, paradoxically, to the constraints of a conservative milieu.

Munich is a German city smitten with its past. While Frankfurt and Stuttgart spiked their skylines with tall, modern buildings (for better or worse) in post–World War II decades, this Bavarian capital, near northern Italy, tried to recreate what had been destroyed. Protective of its elegant Italianate traits, the city continues to maintain a 72-foot cap on building heights, with quaintly pitched red roofs appearing nearly everywhere.

So, in 1993, when Hypo-Bank held a competition to transform a property it co-owned—much of a 257,000-square-foot block—into an upscale shopping complex, it may have seemed surprising that the brief called for demolition of existing structures in a central neighborhood of old Munich. But once Herzog & de Meuron had won the competition (among such world-class players as Norman Foster), the city's well-entrenched character reemerged. Political opposition to altering the district's traditional look—coupled with financial constraints—put the project on hold for several years. Then, in 1998, Hypo-Bank merged with Vereinsbank, another major landowner on the block, and brought the project back to life. The



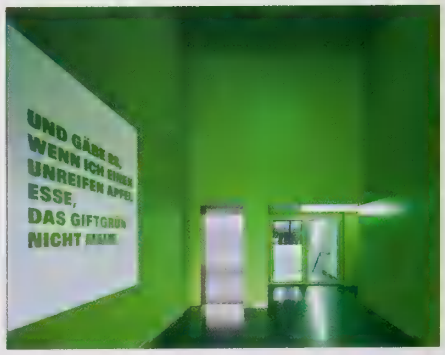
Project: *Fünf Höfe, Munich*
Architects: *Herzog & de Meuron—Jacques Herzog, Pierre de Meuron, partners in charge; Robert Hösl, project team leader; Hilmer & Sattler (buildings 3 and 5); Studio Gianola (Maffeihof)*
Collaborators/artists: *Rémy Zaugg (colors and texts); Thomas Ruff (photographic floor panels); Tita Giese (hanging gardens)*
Engineers: *Obermeyer Planen + Beraten (structural); Obermeyer (electrical); Kuehn Bauer (HVAC)*

The glassy Perusahof (above) recalls a crystal box. Its rectangular aperture opens to the sky. Bronze-mesh shutters, visible on upper-floor internal facades, echo the Perusahof's street-front elevation. The *Kunsthalle* and its café's upper level overlook the complex's spatial sequence.





Along Theatinerstrasse, a picturesque pedestrian way, the architects created the project's only modern street facade (left). Here, over the Perusahof entry, electrically controlled bronze-mesh shutters can veil upper-level offices. On the same street, elevator lobbies (right two) bear the intense colors and wall texts of Rémy Zaugg. Herzog & de Meuron designed the *Kunsthalle* café (top), its furnishings, and light fixtures. A bank-run *Kunsthalle* existed on the site but was far smaller than the current one.





PHOTOGRAPHY: © MARGHERITA SPILUTTINI (TOP)



With Tita Giese advising on plant selections and Haering, Bad Birnbach on technical aspects, the architects created a hanging garden interspersed with lights and hidden systems of irrigation, ventilation, and humidity regulation.

An aerial view of the block, before the creation of Fünf Höfe, shows a network of back buildings and internal courtyards, consistent with the local urban fabric. The architects actually filled in much of the block (below), but without giving the impression of density along the path through the complex.





1. *Perusahof*
2. *Portiahof*
3. *Prannerpassage*
4. *Viscardihof*
5. *Salvatorpassage*
6. *Maffeihof*
7. *Amirahof*
8. *Gartenhof*
9. *Promenadehof*
10. *Little Salvatorpassage*

Herzog & de Meuron opens the block, beckoning the public into its inner reaches

Before Five Courtyards existed, a cluster of back buildings and inner courtyards formed a closed world, beyond the reach or gaze of the general public. Two banks—Hypo and Vereinsbank (later to merge into one)—were the block's main property holders, while lesser landowners included, and continue to include, the local bishopric.

The decision to transform the block was not a matter of neighborhood revitalization or gentrification, but of capitalizing on a top location. As the bank overseers realized before launching the 1993 competition, they were sitting on highly valuable real estate. Full of pedestrian ways with boutiques like Chopard, Armani, Bally, and Ligne Roset, the district was already the domain of stylish clientele. Maximillianstrasse, Munich's most deluxe shopping avenue, is nearby, as are picturesque Baroque churches and a historic royal residence.

For Fünf Höfe, Herzog & de Meuron drew on disparate influences: cryptic medieval shopping corridors and the royal residence's urban-scale outdoor rooms.

The streets leading to the complex bend in ways typical of old districts. In that spirit, none of Fünf Höfe's entry corridors are continuous with surrounding streets but deflect or jog off of them—distinguishing the block's internal routes from the scale of urban thoroughfares.

The architects actually filled in many of the existing courtyards—simultaneously increasing the block's overall density, while, remarkably, enhancing the sense of expansive openness. This experiential effect owes much to the variety of new public spaces, the Salvatorpassage's particularly generous proportions, extensive planes of transparency and reflectivity, and the presence of daylight (dappled, filtered, or direct rays) deep within the block.

Though many buildings form Fünf Höfe, and scarce demolition was permitted, the block's interior now offers a seamlessly new, rather than piecemeal, quality—due to subtly consistent glass storefronts, an overall graphic vision (under the guidance of artist Rémy Zaugg), and the patently diverse character of the project. *Sarah Amelar*



NEW CONSTRUCTION









A suspended sphere enlivens the pentagonal Viscardihof (top and right), with its diagonal entry route.

program remained mixed-use—with retail, cafés, restaurants, and a banking hall on the ground level, and offices, housing, and a *Kunsthalle*, or art exhibition space, above. But the guidelines had changed, radically reducing what could be demolished—and prompting, ultimately inspiring, the architects to develop a whole new strategy.

Now the block's street perimeter—demure 1950s facades, with an 1895 and a 1910 structure—had to stay, permitting the architects to change only the block's interior. And there, only 35 percent could be demolished. Clearly, the winning scheme for six new buildings—each by a different architect, including Rem Koolhaas—had to go. But the seemingly restrictive new terms set the stage for a range of possibilities. "Our approach," says project leader Robert Hösl, "became one of subversive urbanism."

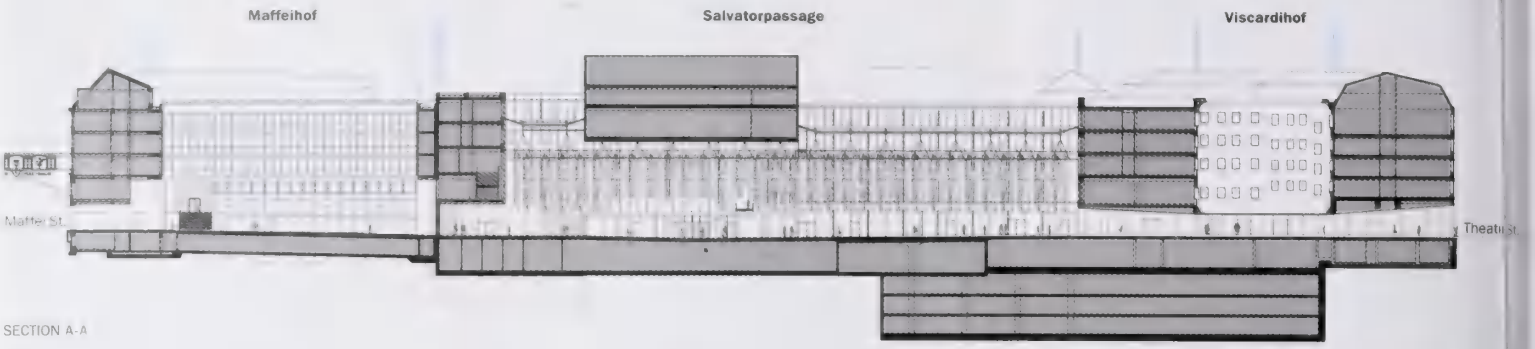
That subversion (a sexy term that carries a shade of exaggeration) turned the block's unassuming, traditional exterior into a mask for an unexpected domain. Now the journey inward follows passageways and courtyards, channeled and carved through existing, though transformed, structures. (An ad agency coined the name "Fünf Höfe," but the complex includes more than five courts or passageways.) Establishing a new order, the route passes through disparate zones—from the jungly canopy of vines to a vaulted tunnel glinting with sequinlike glass disks set in plaster.

While Herzog & de Meuron projects typically focus on a very small number of strong ideas, this scheme embraces plurality. Here, the architects formulated the urban concept and designed most of the common areas, but almost none of the retail or restaurant interiors—except for the *Kunsthalle* and its ground-floor café and shop. The complex embodies not only a multiplicity of functions, but also visual and experiential eclecticism, echoing (albeit in an upscale mode) some of the variety of city life.

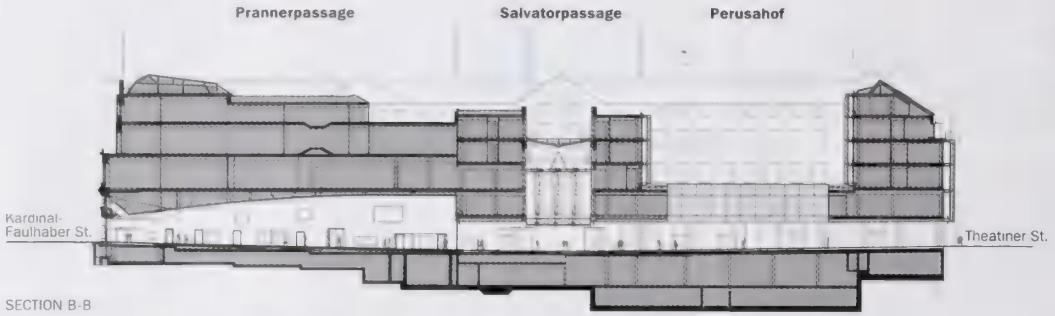
The act of opening the block's interior to the city was literally a revelation: Before Five Courtyards existed, this inner zone had formed a "forbidden city," a network of back buildings and courtyards entirely hidden from the street and inaccessible to the public. This inner sanctum was populated mostly by bank employees, along with lesser landowners on the block. But, sited in an elegant and established shopping district, it occupied valuable real estate that the bank was eager to exploit.

For the scheme, the architects took cues from the urban outdoor "rooms" of the nearby Bavarian royal residence—and, on a more intimate scale, from Europe's introverted labyrinths of medieval shopping corridors. With such contrasting influences, Fünf Höfe plays baroque against Cartesian, curving and meandering against straight and rational.

Entries to the complex occur on all four sides—with (large



SECTION A-A



SECTION B-B

"mousehole" passages deflecting off of the old district's pedestrian ways. Only for the Perusahof entry did the client ultimately request a modern street facade—which required persuading the architects to deviate from a now strict interior-versus-exterior scheme. The result evokes "a bit of textile poking out from within," says Herzog, referring to the drapelike, bronze-mesh shutters that recall his firm's design for Rue des Suisses housing in Paris. At Five Courtyards, the mesh, with its moiré effect, acts almost as an edge of lacy lingerie that begins to reveal what's beneath the outer garment.

Entering the Perusahof corridor from the street is like suddenly occupying a long crystal box with a rectilinear aperture overhead—open to the sky and oblique views of interior facades, sheathed in more bronze mesh. Rough metal plays against smooth glazing. But in this passageway, with *Kunsthalle* access, glass reigns—blurring distinctions between reflected and real, between surface and opening. The effect is both understated and quite dazzling. Throughout the complex, a taut glass membrane, over simple, rhythmic vertical structure, forms the interface between commercial and public zones. This sleek transparency permits flexibility in placing partitions between shops (important to tenant turnover).

Perpendicular to the Perusahof, the Salvatorpassage, 46 feet high and 62 feet long, is the complex's exotic centerpiece. A wavy grate, under a glazed ceiling, brings daylight midblock while supporting a lush and whimsical array (up to 33 feet deep) of dangling vines and pendant lamps.

Continuing along the Perusahof's axis, the path leads west past the Portiahof, an outdoor court with tables from adjacent restaurants and a waterfall trickling down a perforated-aluminum screen. This cloistered, open-air spot has become a calm and popular refuge. Dappled light, filtered through the aluminum screen's large circular holes, begins a subtle transition from the straight-edged Cartesian realm of the Perusahof and Portiahof into the vaulted, darker, baroque tunnel of the Prannerpassage.

Here, simple rounds of recessed ceiling lights and glass disks, set into the walls and ceiling, echo shadows cast by the Portiahof's aluminum screen. The disks, evoking reflections on water, progress from sparsely spaced glints to a densely sequined cluster at the end of the tunnel, where angled apertures, carved through a deep wall, open toward the sidewalk. Unpredictable from the vaulted corridor, the street side of this thick wall reveals an opulently sculpted 1895 neo-Baroque facade. Hardly reduced to a thin stage set, this relic was inventively embedded into new forms.

After the curvy, glittering Prannerpassage and wildly burgeoning Salvatorpassage, the gray, five-sided Viscardihof, off the northeast end of the hanging jungle, seems sober. But a huge, woven-metal sphere by Olafur Eliasson, suspended overhead, brings this relatively stark courtyard to life.

Many pieces complete the tightly fit puzzle of Fünf Höfe. Dovetailing with Herzog & de Meuron's urban concept, architects Studio Gianola produced the Maffeihof, and architects Hillmer & Sattler created the Amirhof, as well as two neotraditional street facades for the outer wall.

Artists played key roles here, as in much Herzog & de Meuron work. But these artist interventions do not always announce themselves. Rémy Zaugg unified Fünf Höfe graphically, overseeing everything from elevator-panel numbers to exterior signs. His deftly ambiguous wall texts, inlaid-steel floor messages, and intensely hued elevator lobbies offer gentle provocation throughout the project. Thomas Ruff used a serilith method, developed for the firm's Eberswalde Library [RECORD, August 1999, page 84], to apply photos to 12 floor panels here. Some images (e.g., a Manhattan aerial view) are legible, while others appear as vague stains on concrete pavers. Occasionally, barely perceptibly, Zaugg's words engage Ruff's images in dialogue. Layers of meaning and visual complexity gradually reveal themselves.

In the end, Fünf Höfe succeeds in bringing together an extraordinarily eclectic array of elements—fitting together the existing and the new seamlessly, but without the lifeless homogeneity of most "designed" shopping arenas (often so heavily controlled aesthetically).

People flock to the place, comfortably strolling along its passageways, visiting its shops, and relaxing in its courtyards, cafés, and restaurants. At its richest, Fünf Höfe's complex inner world evokes a small, hidden quarter of a city, which the public has willingly discovered.

The model for this project seems closer to a European galleria than an American shopping mall, but on a more intimate scale. Granted, Five Courtyards is not so revolutionary as to overturn the very concept of shopping. But with an extremely tactile and authentic material palette and a refreshingly abstract sensibility, it achieves whimsy and variety—without a whiff of theme-park or "theme-mall" tricks. ■

Sources

Windows: *Schindler; Ibscher; Frener & Reifer; Gartner; Schöninger; Lösche*

For more information on this project, go to Projects at **www.architecturalrecord.com**.



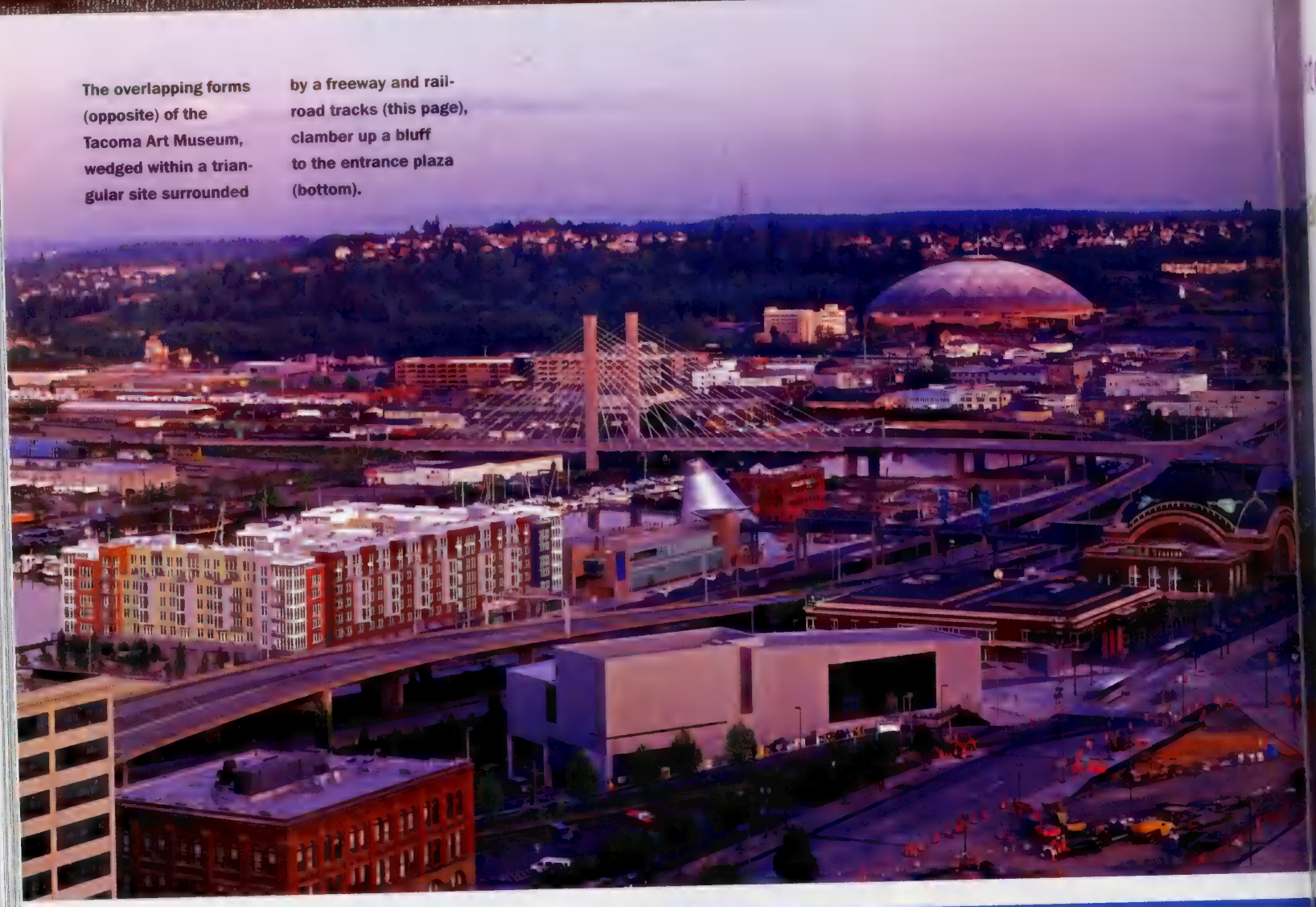






The Portiahof (far left, top and bottom) opens entirely to the sky, with aluminum wall screens casting dappled light. This court lies along the vaulted Pranner-passage (below). At the end of this tunneling corridor, light bounces through deep, angled apertures and off of sequinlike glass disks set in the walls and ceiling. Surprisingly, the passageway ends in an 1895 facade (left).

The overlapping forms (opposite) of the Tacoma Art Museum, wedged within a triangular site surrounded by a freeway and railroad tracks (this page), clamber up a bluff to the entrance plaza (bottom).





Antoine **Predock** makes a landscape abstraction of the **TACOMA ART MUSEUM**, and aids the transformation of a gritty industrial city through culture



By Sheri Olson, AIA

Squinting through sunglasses at the opening of the Tacoma Art Museum (TAM), Antoine Predock, FAIA, was confounded by sunshine, a generally rare commodity in the damp western side of Washington State. "The Weather Channel must be conspiring against me," the Albuquerque architect said. Having envisioned the museum's stainless-steel skin dissolving into the Pacific Northwest's infamous overcast skies, in emulation of the usually mist-shrouded peak of nearby Mt. Rainer, Predock brooded as the museum sparkled beneath the mountain's 14,000-foot-high glory.

Rain or shine, the new museum is a hit, drawing more than 17,000 visitors its first month, compared to the 2,500 who toured its former home a year earlier. Not all of the museum's support relies on the public: "Northwest artists have given more than 200 new works of art to the permanent collection because of the excitement generated by the new building," says Janeanne Upp, the museum's executive director.

The museum provides a crucial link in the efforts of this scrappy industrial city to remake itself (page 110). For 30 years TAM made do in a sober 1919 bank building five blocks north of its new location. With a growing collection of Modern and contemporary art, and a gathering sense that the revitalizing city could support more suitable quarters, the museum was able to raise almost all the funds for the new building privately. (The city donated the land.) The collection is largely focused on work of Pacific Northwest artists (who frequently take the dramatic surroundings and cool, Pacific light as inspiration), which drew the museum's leaders to Predock's sensitivity to the western landscape. "His approach responded to the Pacific Northwest as a place," said Upp.

"The biggest challenge was the site," says Predock, who worked with executive architect Olson Sundberg Kundig Allen, of Seattle. To hear him describe it, "There was no site." He had to figure out how to perch the $22 million structure on the side of a bluff that drops 30 feet from the entrance on Pacific Avenue to what is essentially a pit formed at the base of the bluff by a forest of freeway columns. To get the public spaces up to the Pacific Avenue level, the architects slung two floors of administrative and storage spaces atop columns and under the two levels of galleries.

In other settings, Predock's public projects can bear a resemblance to the geologic formations of the arid West. "Here the building makes its own topography," says Predock. He's expressed the galleries' spiraling organization through overlapping volumes topped by gently sloping roofs, and he wrapped it all in a taut skin of stainless steel. This exterior appears to be not so much a landscape abstraction as a phenomenon of the sky, as mutable as the northwest light. "After 25 years in the Southwest, I'm used to the sun assaulting architecture," Predock observes. "Here I can welcome it in." In contrast to the earth-bound nature of his work elsewhere, the flush stainless steel buoys this building. In sun, it's as silvery as a fish; on overcast days, it disappears into the mist like Rainier's furtive peak.

The body of the 50,000-square-foot building is tucked into the diagonal of a freeway on-ramp that cuts along the eastern edge of the site. Only the corner of the entrance elevation touches Pacific Avenue, but its presence is made larger by the triangular plaza stretched along the street frontage, visually marked at its apex by an iceberg of stainless steel.

Sheri Olson, AIA, RECORD's Seattle-based contributing editor, is architecture columnist for the Seattle Post-Intelligencer.

Design architect: *Antoine Predock Architect—Antoine Predock, director of design; Devendra Contractor, associate in charge; Paul Fehlau, project manager*
Executive architect: *Olson Sundberg Kundig Allen*
Engineers: *Chalker Putman Collins (structural); Abacus Engineering (m/e/p)*
Consultants: *Swift & Company (landscape); Candela (lighting); Lighting Design Lab (daylighting)*
Contractor: *Hoffman Construction*

Culture and college restore lost glitter to a once-struggling mill town

The new Tacoma Art Museum is the latest addition to a cultural district that has been emerging for more than 10 years. Across the street, the University of Washington created a new Tacoma campus (bottom left) by converting once-blighted warehouse buildings. Down Pacific Avenue, a pedestrian bridge festooned with $12 million in blown glass by Tacoma native Dale Chihuly crosses the freeway to the new Arthur Erickson–designed Museum of Glass, on a 1.5-mile-long public esplanade that lines the cleaned-up Thea Foss Waterway.

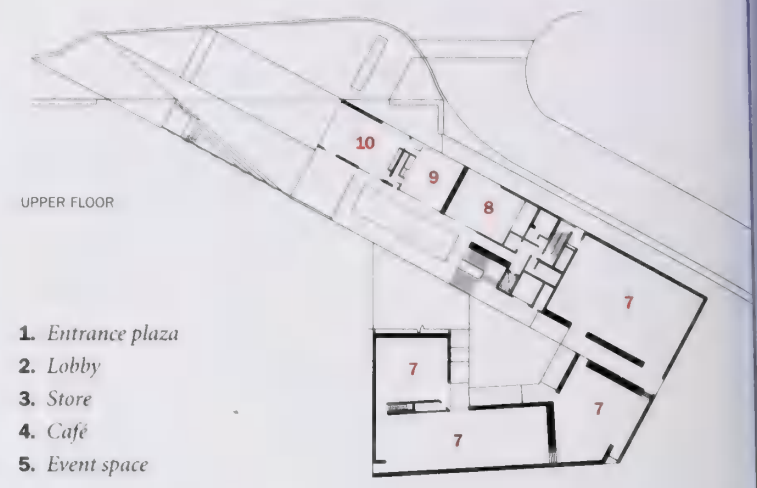
When the glass museum opened last summer, its staff handed out air fresheners embossed with the project's distinctive metal cone as a tongue-in-cheek play on the city's evolution from odorous mill town to sparkling port city. "Fifteen years ago, the mayor and city council decided to take control of Tacoma's future, including developing the waterfront," says Juli Wilkerson, director of the city's department of economic development. "By adding a cultural component, Tacoma created a synergy between the waterfront, the university, and art," says Josie Emmons Turner, division manager of culture and tourism.





It began in the business core, just a few blocks north of TAM. The 1991 Broadway Center for the Performing Arts was created out of the renovation of two turn-of-the-last-century vaudeville palaces and the construction of a third theater space. Next came the 1992 renovation of the landmark Beaux Arts Union Station (top left) with an added wing housing the Federal Courthouse. Its forms are echoed in the neighboring Washington State History Museum, completed in 1996 by Moore/Andersson [RECORD, October 1996, page 70]. Both share a stop with University of Washington, Tacoma on the new (free) 1.6-mile-long light-rail line that stretches through the theater district to the Tacoma Dome arena on the south side of downtown.

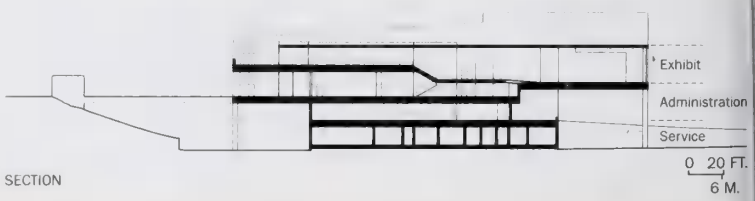
With the opening of the new Tacoma Art Museum, says TAM's Janeanne Upp, "We've reached a critical mass; people can now spend a day here visiting museums." Beyond tourism, Tacoma has succeeded in luring new business: The city recently ranked highest in regional job growth. Tacoma appears at last to be emerging from the long shadow cast by nearby Seattle. *S.O.*



1. *Entrance plaza*
2. *Lobby*
3. *Store*
4. *Café*
5. *Event space*



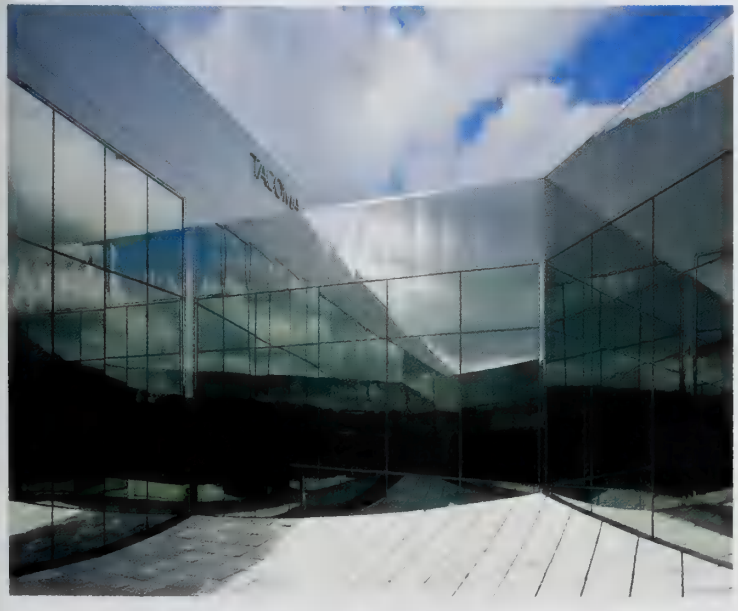
6. *Stone garden*
7. *Gallery*
8. *Library*
9. *Classroom*
10. *Studio*





TAM faces Pacific Avenue at an angle (opposite, bottom right). Its entrance (this page) leads axially (bottom right) past the stone garden (bottom left).











The entrance atrium (below) leads to a ramp (top left), which winds around the courtyard (visible in photo, opposite). Cases and galleries borrow light from the court (top right) and from a variety of exterior openings. The visitor path ends at the atrium on the upper level.





In contrast to the intimidating opacity of the old bank building, visitors to the new museum enter a long, double-height lobby that offers a view all the way through the museum to a window framing the freeway overpass beyond. The sensual effect of a courtyard, opening to the right of this axis, sums up much of what Predock intends for the museum experience. In this wedge of outdoor space, masonry-design specialist Richard Rhodes has created an installation—a stone garden using 500-year-old granite pavers salvaged from a rural area in China that will be flooded upon the completion of the Three Gorges Dam. The stones take the form of a liquid topography that appears to slosh up against the courtyard walls. Predock faced the court with flush-mounted, mirror-finish glass, which multiplies and diffuses Rhodes's composition (glimpsed above). "Through reflections, the void of the courtyard takes on substance and becomes an object," says Predock. To understand the mysterious, intangible qualities of this space, contrast it to Arthur Erickson's nearby Museum of Glass, which pays all-too-literal tribute to Mt. Rainier with a conical steel roof.

A ramp rises gently around the stone garden and is wrapped by the galleries as it winds up to the second floor. Predock's orchestration of light and views makes their 12,000-square-foot total look larger than it is—and subtly reminds patrons of the world beyond. A partition separating the first gallery from the ramp stops a few feet short of the ceiling, spilling light drawn from the courtyard into the exhibition space. A high, narrow window along the outside wall balances the outside light and offers a glimpse of sky. Windows frame unexpected vignettes of the city, the waterfront, and even the unlovely freeway. "We were all for natural light in the galleries—it enlivens the visitor experience—but we had to be able to manage it," says Upp. She can lower scrims around the courtyard and close hinged doors over window openings to black out the galleries.

The visitor path culminates in a glass-enclosed atrium on the second floor with views of Union Station, the Washington State History Museum, and elusive Mt. Rainier. Sharing the rooftop views are an art classroom, art studios, and a resource center. Formerly relegated to the basement of the old bank building, visitors using these light-filled spaces are offered a Predock touch: When wet, the metal plane of the roof just beyond becomes a large pool reflecting the changing sky.

Of Puget Sound's three new modest-size museums, including the Museum of Glass by Vancouver-based Erickson, and Northwest-native Steven Holl's Bellevue Art Museum [RECORD, August 2001, page 80], it is the outsider, Predock, who best captures the region's mutable light in the connections he offers to the outdoors and in his choreography of movement. Like a director working with an actor, he captures and amplifies the Northwest's changeable oyster sky. As if on cue, it drizzled on the museum's opening day as celebrants paraded from the old location to the Tacoma Art Museum's shimmering new home. ■

Sources

Metal roofing: *A. Zahner Company*
Inverted-seam stainless-steel cladding: *A. Zahner Company*
Glazing: *Evergreenhouse; Kawneer*

For more information on this project, go to Projects at **www.architecturalrecord.com**.



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TRANSPORTATION FACILITIES

Missed Connections

ROADS ARE HACKED UP; AIR TRAVEL IS ANEMIC; RAIL'S GOING NOWHERE; TURF BATTLES KEEP MODES FROM MIXING. IS THERE HOPE FOR TRAVEL-FACILITY INNOVATION? YES.

By James S. Russell, AIA

On the Upper West Side of Manhattan, a highway cuts off access between the city and the river. Unlike the massive concrete conduits filled with hordes of vehicles that cram waterfronts elsewhere in America, the six lanes of the Henry Hudson Parkway exist in a uniquely benign relationship to their surroundings. Though it runs through Riverside Park, the highway's combination of stone-faced walls and elegantly arched bridges dampen the noise and offer frequent inviting access to the river. A two-track rail line runs parallel to the roadway, underneath a promenade of gardens and playgrounds. This masterwork of urban design was completed in the Great Depression, but replicating it in a contemporary fashion can barely be contemplated today.

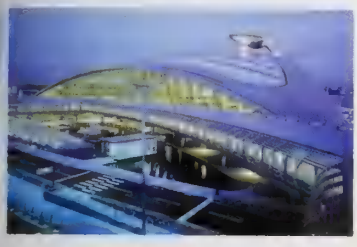
There is an ever-growing need to unite rail and roads, airports and transit, and to make each mode fit more gracefully into cities. But the political and bureaucratic barriers are formidable. On the one hand, funding for each mode of travel has been placed in a separate pot, defended by separate bureaucracies and constituencies, which have almost no incentive to cooperate with each other. On the other hand, funding formulas all but preclude the participation of architects and related professionals who can stitch such facilities together and connect them to their surroundings.

Is there hope that a better-integrated, community-focused federal transportation strategy might emerge? This year, Congress must make a massive six-year funding commitment for surface transportation. But, in a rare circumstance, bills for aviation facilities and the future of Amtrak are also under consideration. "The time is right to begin building an integrated intercity travel system for the 21st century," said Hank Dittmar, who heads a coalition called Reconnecting America. His new organization's specific focus is to redefine national policies in order to integrate the aviation, passenger-rail, and intercity bus systems.

The bills will be very hard fought (because transportation money is scarce, the economy tough), but the confused transportation-policy landscape and the very direness of today's transportation dilemmas might force an unexpected kind of accommodation.

Community focus pays off

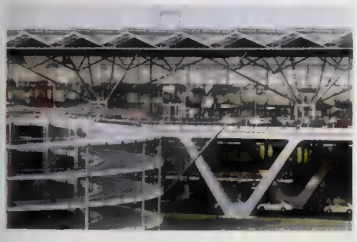
Through most of the interstate era, architects have played only a peripheral role in big-dollar transportation projects. But there is a dawning recognition that strategic transportation investments—especially for transit—pay off when integrated with local planning. Since completion of a rail project that cut commute times to New York City from suburban



1.

Incheon, Korea

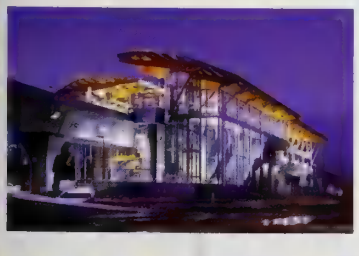
Terry Farrell devised biomorphic curves to shape the movements of passengers at the multimodal Incheon Transportation Center.



2.

Cologne, Germany

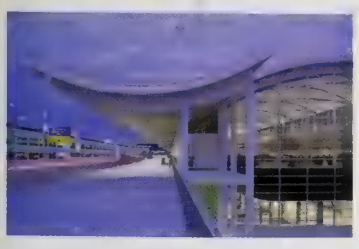
Murhpy/Jahn elegantly engineered a glassy pavilion linking a new terminal (as well as parking and a rail connection) to a landmark original.



3.

Vancouver, Canada

VIA Architecture led five architect teams in the creation of 12 elevated "civic rooms" on the 16-mile SkyTrain Millennium Line.



4.

Detroit, Michigan

The SmithGroup has made way-finding easy for the millions of transferring passengers who use Northwest Airlines' new Detroit hub.

For more information on these projects, go to Projects at **www.architecturalrecord.com**.



The firm of Angélil Graham Pfenninger Scholl recently won the opportunity to design a tram connecting Portland's low-lying North Macadam neighborhood to a densely built-up hilltop hospital complex.

New Jersey, home prices in communities along the line have skyrocketed. AIA cites a University of North Texas study's findings that the new DART light-rail system in the Dallas region has already generated more than $800 million in development, with the full system projected to generate $3.7 billion in economic activity upon build-out. The payback, of course, is not only short-term. Washington's Metro and the Bay Area's BART have attracted increasing investment around stations for decades. Along Riverside Drive, few apartments sell for less than $1 million. Can one imagine this along the average highway? "One of the rationales for rail is that rail and land investment go hand in hand," explains Buz Passwell, director of the Transportation Research Center at New York's City College. "It's very expensive to build, but the investments pay back through greater employment densities and commercial space that takes advantage of the new travel capacity."

The evidence is especially compelling in Vancouver, Canada, where the elevated SkyTrain system pays its way almost entirely through the fare box. It would not have achieved such popularity had not the local government coordinated high-density development near the stations. "There are growth objectives for each community," explains Alan Hart, partner of VIA Architects, the lead architect of the SkyTrain's latest extension (page 132). "Officials must show how to achieve the goals with infrastructure." From these determinations flow the grants to support the initiatives, he says. In the Seattle area, where Hart is working on a monorail system recently approved by voters, "they don't have that regional game plan to react to."

The community focus is a critical one in terms of getting community commitment to transportation projects and reducing mitigation costs, says Ann Canby of the Surface Transportation Policy Project, an advocacy group. "Architects working with communities are key to success." Too often, however, the role that architects can play has been overlooked. The staggeringly expensive Big Dig in Boston was justified in part by the enormous downtown redevelopment opportunity created by the restoration of 30 acres of open land. Unfortunately, the design of the miles of tunnel was never coordinated with the possible uses above. While some appealing parks and playgrounds may be created, Boston appears to have squandered its opportunity to create a Riverside Drive (or a Park Avenue, which was built as a commercial development over a rail yard, and which has paid off its investment incalculably more than the railroad ever did). Instead, there's almost no money and still much squabbling about how to shape the Big Dig's land legacy [RECORD, March 2002, page 84]. Other cities have reaped substantial benefits from tearing highways down—think San Francisco's Embarcadero.

Architects sidelined

The Big Dig blunder is not actually surprising. Surface-transportation funding has carved out a small and highly circumscribed role for architects. Funds from the tiny Transportation Enhancements program permit architects to improve communities (restoring an obsolete train station, typically), but they don't offer a role for architects in the design of major transportation facilities themselves. It's enormously difficult to bring in an architect (or design-savvy engineer) to make that off-the-shelf freeway bridge over a key scenic waterway a community enhancing landmark—that's why none of the tens of thousands of bridges constructed in the interstate era can be regarded as an iconic symbol on the order of the Golden Gate Bridge. (A long-discussed bridge in Dallas, by Santiago Calatrava [opposite, bottom] will get built because private interests have agreed to underwrite the additional costs of the design.)

Community-enhancing designs can cost more, but shoving crudely designed facilities into unwilling communities isn't cheap. Road officials argued that any but standard bridge designs would add $200 million to the price of replacing the earthquake-damaged eastern segment of the San Francisco–Oakland Bay Bridge. The "cheaper" design endured five years of delay and finally went into construction last June—at double the price.

Can modes ever meet?

Though the nation spends plenty on transportation ($133 billion on highways alone in 2001), there remains little consensus that it spends well. Moving traffic to the mode to which it is best suited, and connecting those modes together, for example, is rare. Incheon, Korea's, multimodal interchange (page 120) or the high-speed rail connection that will soon serve Cologne's airport (page 126) do not find their logical counterpart at the Detroit air hub (page 140). Blame the sclerotic means by which the federal government funds transportation. As Reconnecting America points out, "Both the aviation and highway systems have institutionalized financing schemes based on user fees [like gas taxes] imbedded in trust funds that are immune from the appropriations process"—politicians spend what comes in—"while passenger rail must subsist entirely upon passenger tickets and controversial annual appropriations from the general fund. As a result, government subsidies to aviation and highways are largely unrecognized, while those to Amtrak are painfully obvious."

Federal money is supposed to be spent based on local priorities, including broad regional planning objectives. This coordination is left to designated Metropolitan Planning Organizations (MPOs). Few people know that MPOs exist or what they do. Politics prevail over performance or rational prioritizing. "We sit at the table until we get what we want;

then we leave," Joseph Rose, at that time New York's director of city planning, told a group of planning officials a few years ago—proudly.

It's worth considering, says VIA's Hart, whether transportation money would be spent more flexibly and with greater innovation if it was raised locally. The locally funded city-to-hospital tramway complex in Portland (opposite, top) fits no federal mold. Hart says Canada's system succeeds with little federal involvement. On the other hand, funding-application formulas intended to prove the viability of transit projects actually preclude architecture and community-oriented planning. To get federal funding for major new transit investments, says Hart, "requires that 30 percent of the preliminary engineering be completed. The requirements are onerous; it's heavily engineering-based, and a whole industry has built up around it to get federal funding. The big engineering firms are skilled at this, and they bring on local architects as subconsultants, primarily to appease local communities."

Big money; big Capitol Hill battles

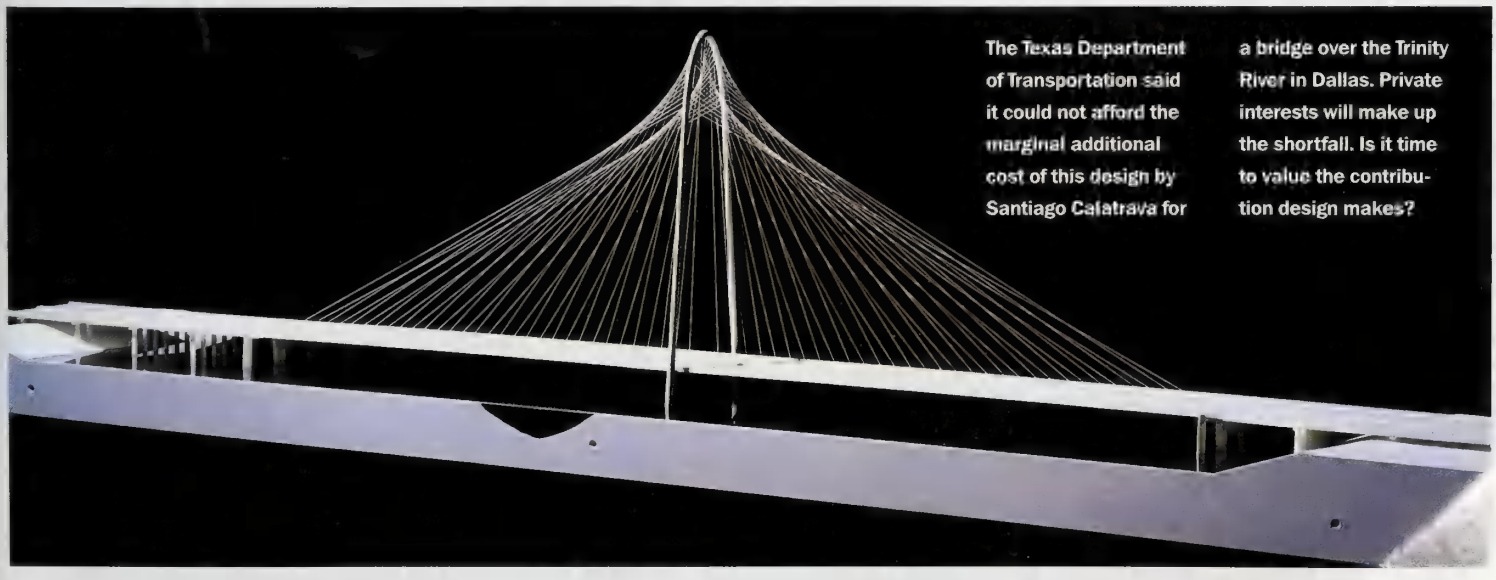
Can such a wasteful and balkanized system be changed? The Bush administration has sent Congress a mammoth six-year surface-transportation bill, called SAFETEA—for Safe, Accountable, Flexible, and Efficient Transportation Equity of 2003. It's the latest iteration of the "TEA" legislation that began with ISTEA in 1991, a reorganization of transportation funding crafted by the late Senator Patrick Moynihan. For the first time it admitted community-oriented, architect-designed "enhancements" into the transportation-funding mix. The administration proposes $247 billion for its program, with $37.6 billion intended for mass transit. That's a 19 percent increase over the current levels of spending, but this amount will make little difference in the ever-growing urban traffic mess, according to the consensus. Congress would like to push the number higher, but the question is how to pay for it. Increasing the nation's already massive deficits to fund roads and rails will be hard to sell. Thanks to deficits, federal transportation funding in the short term may actually decline.

Architects' pecuniary interests tend to lie with transit because station design is one of the chief means by which architects participate in transportation capital investments. The bad news in the administration's bill is that it proposes to reduce the federal contribution for transit projects from 80 percent federal and 20 percent local to a 50/50 split. This "clearly makes public transit investment more of a burden and less attractive to local communities," notes an AIA briefing paper on the pending legislation.

Then there are airports. The collapse in air travel after 9/11 has cost the federal government $15 billion in bailouts but has failed to prevent layoffs of 80,000 at airlines and many thousands at Boeing. No one knows yet what kind of service structure will emerge from ongoing restructuring. The network contraction, hitting small cities hard, "exposed the underlying fragility of our intercity travel system," Dittmar added, "and in particular the fact that the most vulnerable parts of the aviation system are the short- and medium-distance spokes in the hub-and-spoke system." And that's not all. With scarce capital funds going to security upgrades, and with airlines in retreat, airport construction not already contracted is being deferred. This will prove short-sighted. "When we get to the 'new normal,' whatever that is," says Marilyn Taylor, a principal at Skidmore, Owings & Merrill who has led many of the firm's airline projects, "the capacity problems we had before will return." Passenger growth remains stubbornly anemic, which travel analysts attribute in part to long lines and security hassles. "Security can't be tacked on so that it undermines the passenger experience," adds Taylor. "Airports will have to find new ways to do what they were attempting in the 1990s—to make terminals pleasant to spend time in, with retail choice, natural light, and a predictable way to your destination."

Some airline problems could be allayed if the nation had a viable intercity rail system, one that could connect major cities close to each other and smaller markets to hub airports, thereby eliminating a great number of unprofitable short-haul flights [see "Bullet Train Bailout," RECORD, January 2002, page 111]. But the fixes under discussion for perennially ailing Amtrak will do little to bring that dream to reality. The bottom line, said Dittmar in an interview, "is that you have to convince 60 senators that they won't see a loss of service in their districts." Like so many other observers, he regards Amtrak's current system as "hopelessly outmoded." He adds, "From a demand standpoint, we would have never build interstate highways across Montana," he explains, "but we did, and that's because we needed to for connectivity."

How much can this Congress hope to accomplish? Dittmar thinks it is possible to create an intermodal fund specifically to encourage separate transportation agencies to work together—marrying port facilities to rail and allowing air passengers to move seamlessly to trains. Lots of cities would like to emulate BART, in the Bay Area, which has just opened its $550-million rail-transit spur to San Francisco International Airport. But Dittmar says the process of planning and funding for this "requires a genius or a lifetime of persistence." There does seem to be a gathering consensus, however, that, as Dittmar puts it, "our next challenge for transportation is to make networks of our networks." ■



The Texas Department of Transportation said it could not afford the marginal additional cost of this design by Santiago Calatrava for a bridge over the Trinity River in Dallas. Private interests will make up the shortfall. Is it time to value the contribution design makes?

Transportation Centre, Incheon International Airport
Incheon, South Korea

1 **TERRY FARRELL & PARTNERS AUGMENTS A GROWING ASIAN AIRPORT WITH A SPRAWLING MULTIMODAL TRANSIT CENTER LINKED TO KOREA'S CAPITAL.**

By Nancy Levinson

Design architect: *Terry Farrell & Partners—Terry Farrell, principal; Aidan Potter, Doug Streeter, design directors; John Campbell, technical director; David Beynon, project director; Mark Shirburne-Davies, project associate*
Architect of record: *Samoo Architects*
Client: *Incheon International Airport Authority*
Engineers: *DMJM (structural, civil), Core Engineers (electrical); Korea Fire Protection Engineers (fire protection)*
Consultants: *Seo-Ahn Landscape Architects (landscape); LDC (lighting); Hyundai Elevator Company (transportation); Oricom Consortium (signage); Samoo Consortium (supervision: foundation, finish, and mechanical)*
Contractor: *Samsung/Hyundai/ Daewoo (joint venture)*

Size: *2,691,000 square feet*
Cost: *$415.6 million*

Sources
Steel structure: *Samsung Heavy Industry*
Exterior panels: *Hanmaek Heavy Industry; Kyungnam Aluminum Company*
Interior panels: *Yoochang; Iljin Aluminium*
Curtain wall: *Iljin Aluminium*

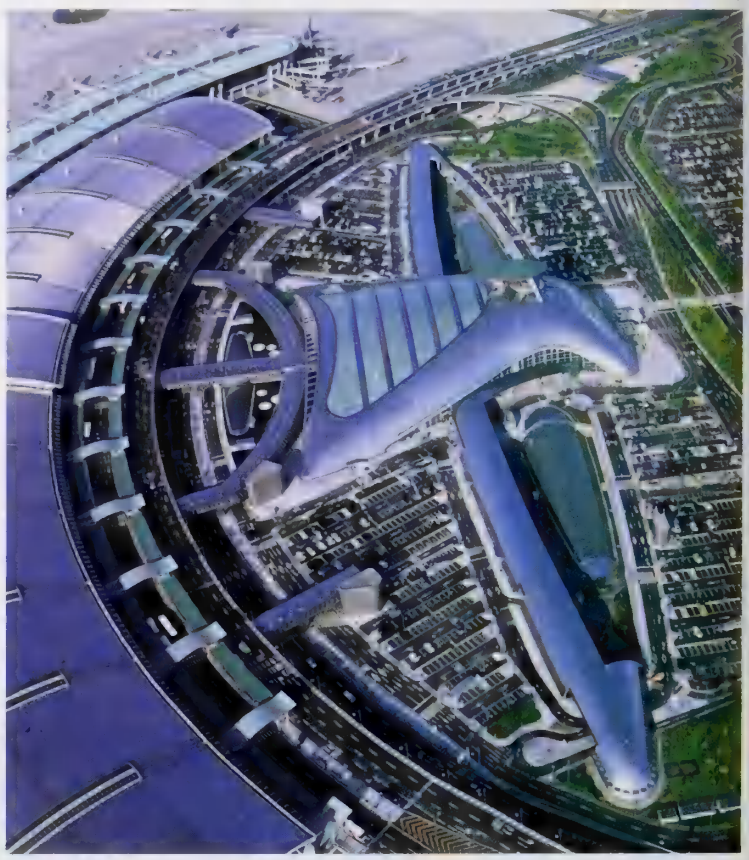
For more information on this project, go to Projects at **www.architecturalrecord.com**.

Global presence, regional ambition, national aspiration—all have played a part in the development, over the past decade, of the immense transportation complex built on an island in the Yellow Sea off Incheon, South Korea. First came the 6-million-square-foot Incheon International Airport, which replaced outdated Kimpo Airport. Planned by Bechtel Corporation and designed by Fentress Bradburn Architects, Incheon International is an integral part of the infrastructure that South Korea hopes will make Seoul the premier gateway to northeast Asia. And then, to link the airport to multiple modes of ground transportation to the capital more than 30 miles away, came this new building, the sleek, sprawling, intricately coordinated Transportation Centre, designed by Terry Farrell & Partners (TF&P) of London.

Program

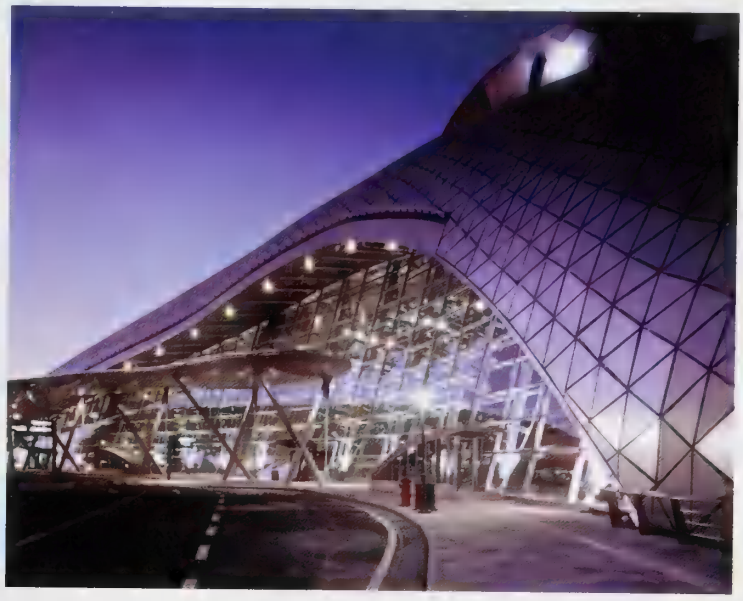
Working in close collaboration with Samoo Architects and DMJM, TF&P was given a distinctly contemporary program—a facility whose purpose is to expedite movement, the quicker the better, from one mode of transport to another—from car or subway or train to plane, and the reverse. TF&P, which has experience with this building type (it designed Kowloon Station, which serves Chek Lap Kok Airport in Hong Kong), understood that the most significant challenge of the Transportation Centre was its scale. How could the 820,000-square-foot, six-level complex be made coherent, with its network of rail lines and stations, its acres of structured and surface parking for 5,000 cars, its people-moving and baggage-handling systems? How could it be given a strong and iconic presence in the still vaster aviation world of Incheon International? And even more, how could it be given identity as a Korean place, so that the frequent-flying traveler will know she has landed in Seoul, not Shanghai or Sydney?

Another familiar challenge, in these days of global practices and project partnerships, was that of process. TF&P is based in London, Samoo in Seoul, and DMJM in Los Angeles. The mix of time zones allowed for an ongoing relay of activ-



Nancy Levinson is a RECORD *contributing editor and an acquisitions editor at Princeton Architectural Press.*





Encircled by miles of roadway and acres of parking, accessed by rail and metro lines, and serving an international airport just across the highway to the north, the Transportation Centre is, above all, a powerful organizing presence for hurrying travelers who must negotiate multiple transit modes.





An open-air pedestrian gallery has a view of the airfoil (top). This gallery is actually at level 5 of the center. The Great Hall (below) is located on level 4, along with rail platforms and parking garages. One of the landscaped gardens can be seen through the windows at left.

ity—the sun never sets on the global business empire—but it also made for what Aidan Potter, design partner at TF&P, recalls as a "significant operational perplexity, regarding the sequencing of information." To solve this problem, he says, "we all needed to establish clear protocols, so that all the designers and consultants were working with the latest documents, and all our computers were talking to each other."

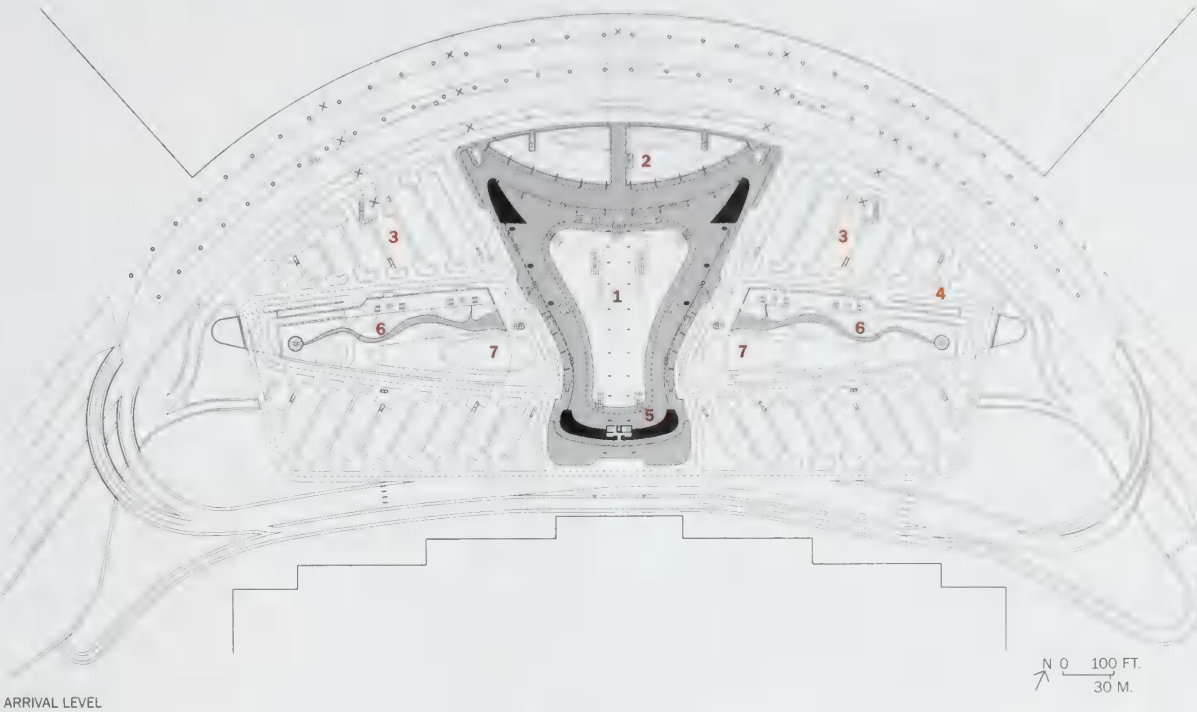
Solution

TF&P's scheme, chosen in a limited competition, responds to both the organizational intricacies and iconographical demands of the program. To accommodate the assorted networks for cars, taxis, vans, buses, trucks, subways, trains, baggage, and pedestrians—the airport will eventually serve 100 million passengers per year—the architects have created a somewhat free-form structure whose complex curves and outreaching platforms make it seem, in aerial view, almost beastlike. To design the nonorthogonal structure, the architects augmented digital-modeling software with a much older design technique: They hired a hatmaker who used millinery formwork to create a physical model of the building, from which sections were then cut and plotted on the computer.

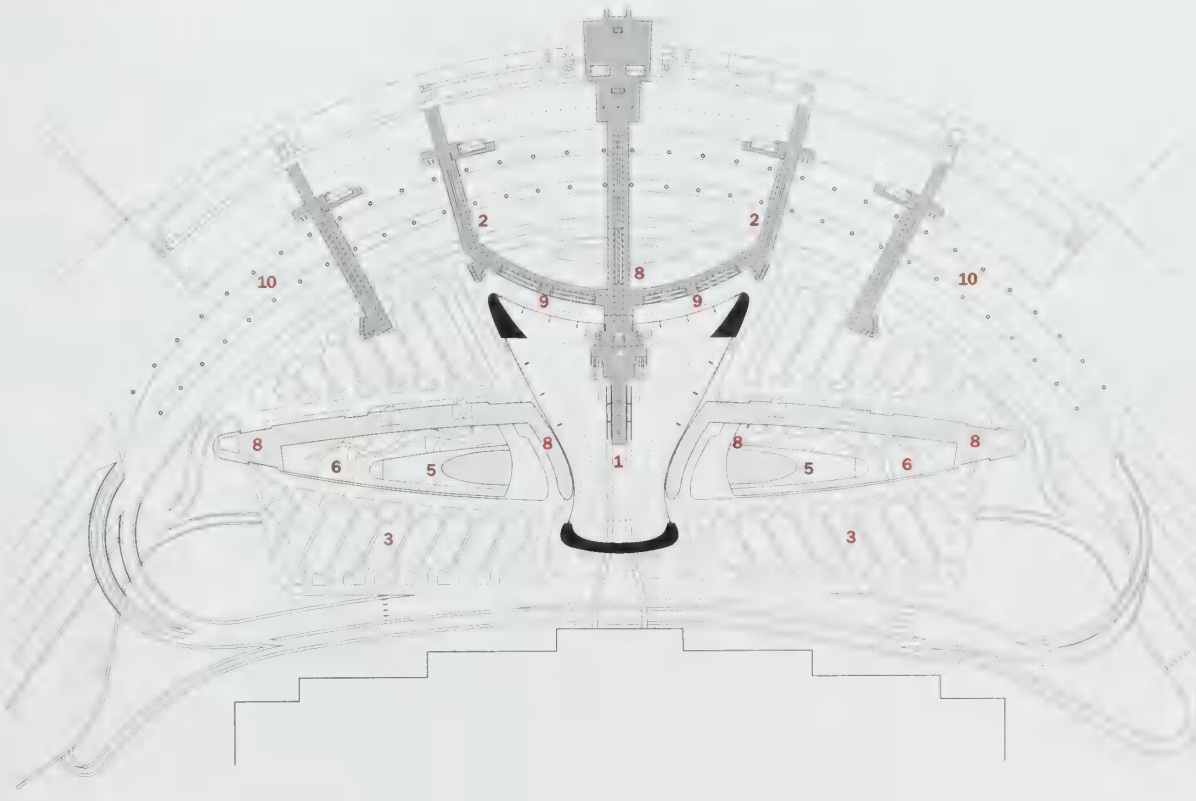
The diverse transportation networks all converge in a central Great Hall, a truss-roofed, daylit space that recalls the grand rail terminals of the Victorian Age. Atop the Great Hall is a 130-foot-long, steel-framed airfoil—a birdlike crest for the beastlike building. Not part of the competition-winning design, the airfoil is actually an agile answer to a major programmatic change made midway through the project. The original scheme was crowned with a tall, swan-necked form that was to have housed the air-traffic control tower and was also meant to evoke both images of flight and other buildings that evoke images of flight, notably Eero Saarinen's terminals at Kennedy and Dulles Airports. But during design development, the Korean airline authority determined that the control tower was not

PLANS

1. *Great Hall*
2. *Pedestrian walkway to terminal*
3. *Parking*
4. *Underground train*
5. *Light rail*
6. *Sunken garden*
7. *Railway station roof*
8. *Roof light over shops*
9. *Moving walkway*
10. *Lower access road*



ARRIVAL LEVEL



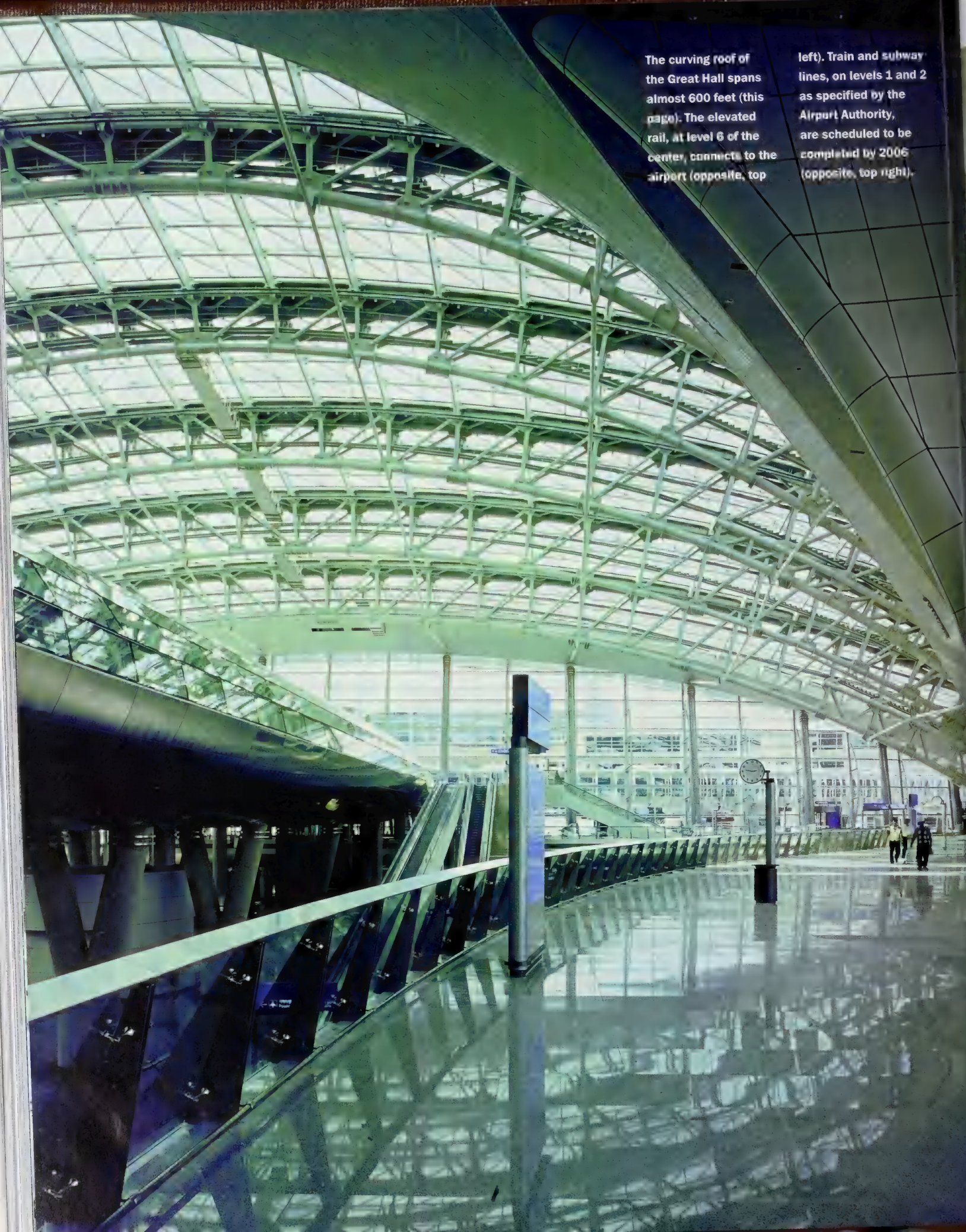
PROPOSED TERMINAL TWO

SECTION

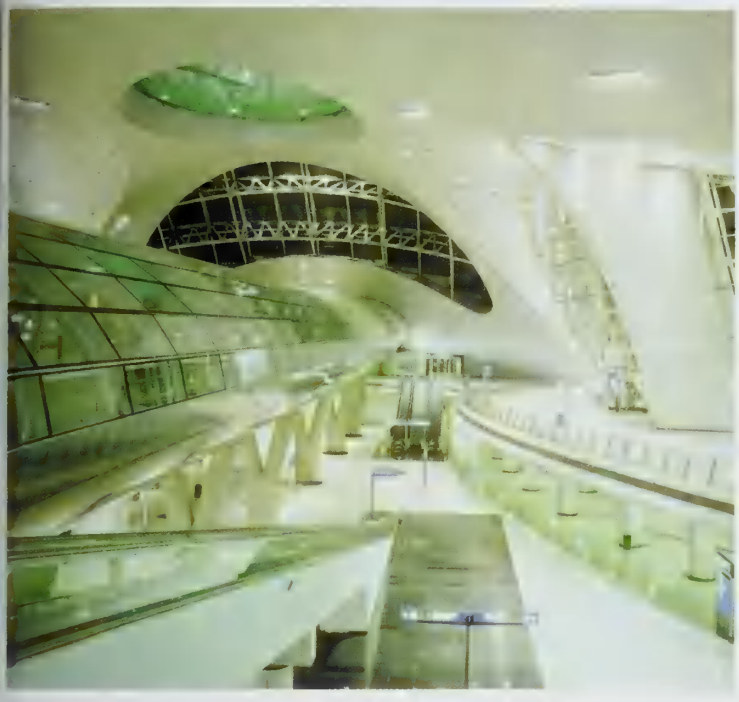
1. *Baggage handling*
2. *Platform and garage level 1*
3. *Garage level 2*
4. *Great Hall concourse and arrivals*
5. *Link to ground transportation*
6. *Link to light rail*

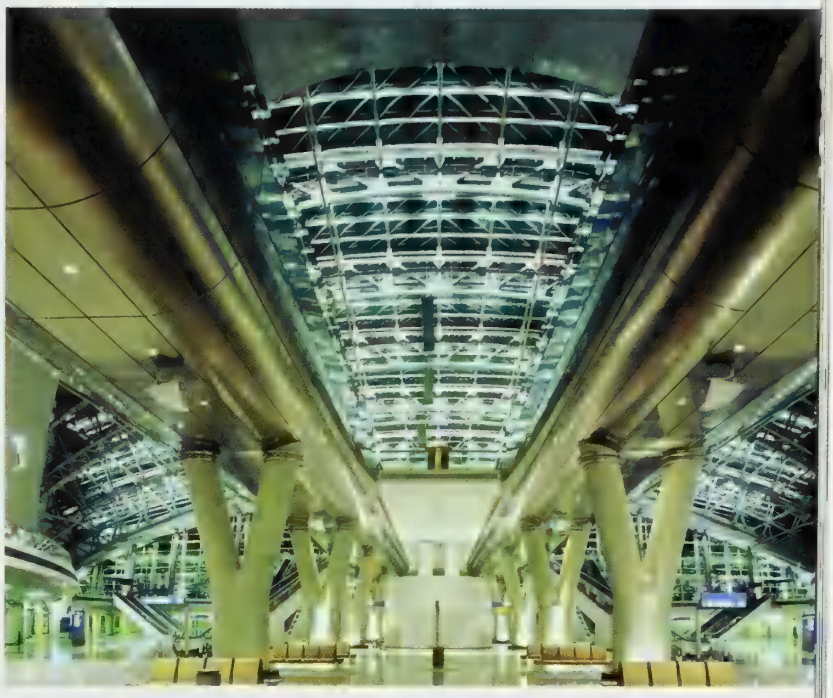


NORTH-SOUTH SECTION



The curving roof of the Great Hall spans almost 600 feet (this page). The elevated rail, at level 6 of the center, connects to the airport (opposite, top left). Train and subway lines, on levels 1 and 2 as specified by the Airport Authority, are scheduled to be completed by 2006 (opposite, top right).





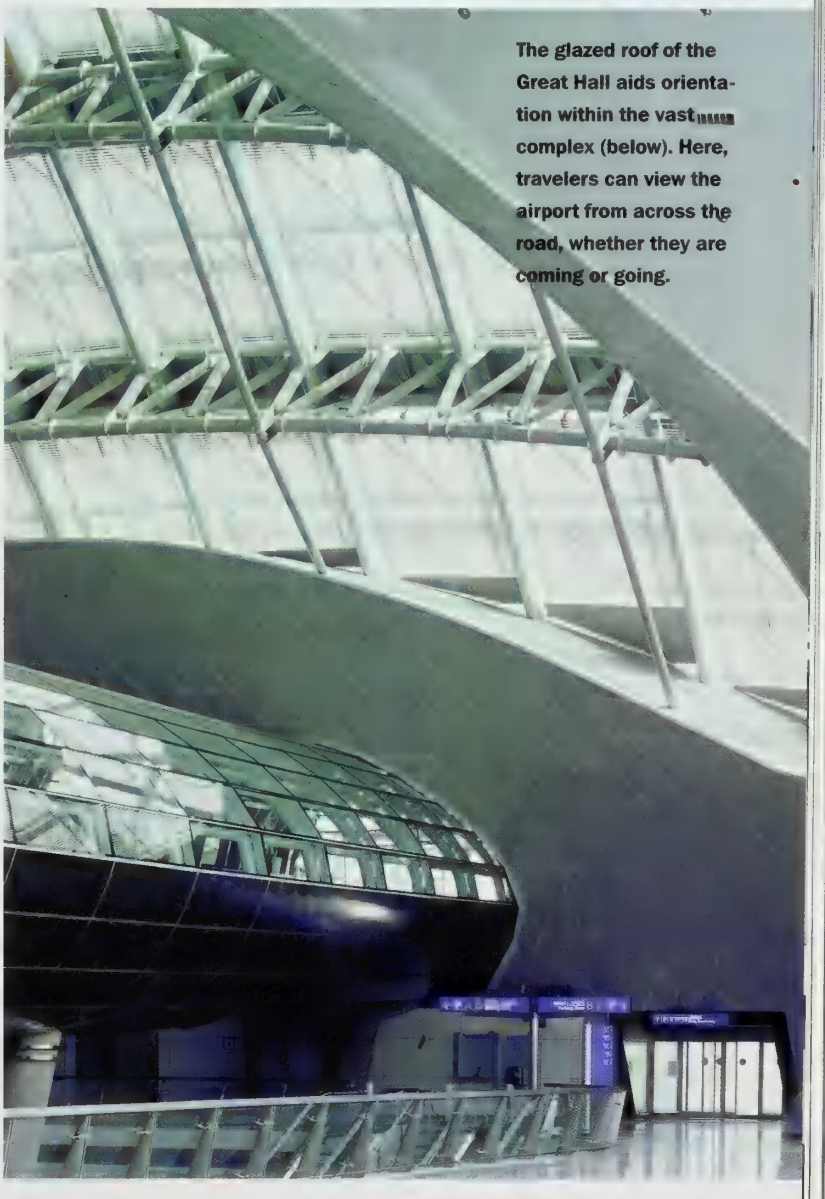
needed logistically and, just as important, was perhaps too obvious, too long-necked a target in the event of conflict between North and South Korea. But the airfoil, as Potter notes, generated new opportunities. "It started as an effort to find a new compositional focus," he notes, "but we wanted it to be more than picturesque." Supported on three strutlike, steel-clad legs, the airfoil hovers above a 50-foot-diameter oculus that can be opened and closed; oriented to prevailing winds, it draws warm air upward and reduces the building's cooling load.

Clad in aluminum tiles and encircled by miles of roadway, the Transportation Centre is a sophisticated and extensive environment—a building elongated out to the scale of a landscape. In the midst of this shiny and efficient place, then, it is delightful to find that the architects have inserted, in the open spaces between rail platforms and roadbeds, gardens landscaped in indigenous style, with meandering paths and clusters of rocks and plants. Amid the hustle and bustle of collecting luggage and transferring to ground transport, travelers who have landed at Incheon International can enjoy a glimpse of Korean scenery—a patch of local serenity in the global transit zone.

Commentary

The realization of the Transportation Centre is premised, at least in part, on the goal of multimodal access to the airport. This raises the inevitable question: how "multi" are the modes? At least for now, at Incheon—as at so many international terminals—the easiest way to travel to and from the airport is by automobile. There is even an eight-lane expressway connecting Seoul and Incheon that is dedicated to airport traffic. Those who want to take mass transit today can take a bus, but those who want to ride a train to a plane will have to wait. According to Hwan Kim, project manager for Samoo, subway and rail lines connecting Incheon to Seoul are now under construction and scheduled to begin operation in 2006. At that point, according to Hyung-Uk Jeon, a project manager at the Incheon International Airport Authority, the center's multimodal potential will begin to be fulfilled: The authority anticipates that at least 30 percent of travelers will eventually use mass transit to get to the airport.

Incheon International Airport and the Transportation Centre are, then, works in progress—gigantic assemblages of 21st-century infrastructure that will need to keep pace with ever-changing developments in travel technology. ■



The glazed roof of the Great Hall aids orientation within the vast complex (below). Here, travelers can view the airport from across the road, whether they are coming or going.

Terminal Two, Cologne/Bonn Airport
Cologne, Germany

2 **MURPHY/JAHN ADDS A SLEEK, GLEAMING TERMINAL TO AN AIRPORT THAT IS STRIVING TO ATTRACT PASSENGERS FOR BOTH AIR AND RAIL TRANSIT.**

By Jan Otakar Fischer

Architect: *Murphy/Jahn—Helmut Jahn, Bo Nielsen, Mark Frisch, Sam Scaccia, Tony Pelipada, Christina Klages, Steven Cook, Hannes Zabel, Stephen Cavanaugh, Thomas Chambers, Wolfgang Bauer, Barbara Thiel-Fettes, Sanford Gorshow, Michael Bender, T.J. McLeish, Yorgo Lykourgiotis, Brian O'Connor, Katrin Klingenberg, Dan Cubric, Martin Wolf, Chuck Wittleder, project team*
Associate architect: *Heinle, Wischer und Partner*
Client: *Flughafen Köln/Bonn*
Engineers: *IGH Ingenieurgemeinschaft Höpfner (concrete); Werner Sobek Ingenieure (facade, special structures); Arup and Partners (steel, energy); Zimmermann + Schrage KG (mechanical)*
Consultants: *Institüt für Fassadentechnik (facade); Jürgen Schubert (landscape); Peter Andres (lighting); Prof. Karlsch (fire safety); ICM Airport Technics, Klaus Ramacher (baggage)*

Size: *753,500 square feet*
Cost: *Withheld at owner's request*

Sources
Terrazzo floor: *Gustav Popp*
Glass floor: *Fischer*
Seating: *"Nomad" by Jahn Lykouria*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

In the late 1960s, the German *Wirtschaftswunder* (economic miracle) allowed investment in infrastructure projects like the airport in Cologne/Bonn, which served both the important western city of Cologne and the the government center at Bonn. A reinforced-concrete terminal (known as Terminal One), designed by Paul Schneider-Esleben, replaced the old airstrip in 1970. Terraced and bunkerlike from the outside, Terminal One revealed an elegant structural system within: it was a "drive-in" airport, with two star-shaped concourses stretching out to meet the planes. It set the standard for German airport design for nearly two decades.

Since that time, requirements for modern airports have evolved dramatically to include provisions for security and multiple transport modes, among other things. Yet, as a functioning landmark building, the existing terminal couldn't be eliminated. Designs for an extension were solicited in an invited competition held in 1992, and the winner was Murphy/Jahn of Chicago.

Program

Terminal One had been conceived during an era of unimpeded mobility and freedom that no longer exists. "It represents the old corporate philosophy, one still blissfully unaware of the needs of security or flexibility," says Steven Cook, Murphy/Jahn's project architect for the new terminal. Decentralized check-in and circulation, in which passengers and guests could penetrate deep into the airport at multiple points, is now impracticable. Today, airports are designed with progressive zones that limit access according to need and intent. Distinct spaces must be provided for arrival, departure, waiting, commerce, and security. Modern airports must also accommodate more planes with more passengers and offer easy, comprehensible connections to a variety of options for ground transportation, including trains, buses, and automobiles. The challenge for the architect was to provide all these services as an addition to the historic terminal, such that the overall capacity would rise from 4.5 to 7.5 million passengers per year.



Solution

Murphy/Jahn's design calls for a set of new additions to be completed in several phases. Terminal Two, positioned closely alongside Terminal One, was finished in summer 2002, along with two large parking structures. An elevated roadway, extending and altering the old traffic loop, was built to serve both terminals and the garages opposite. An underground high-speed rail station at the heart of the complex is currently under construction, and renovations to Terminal One are under way.

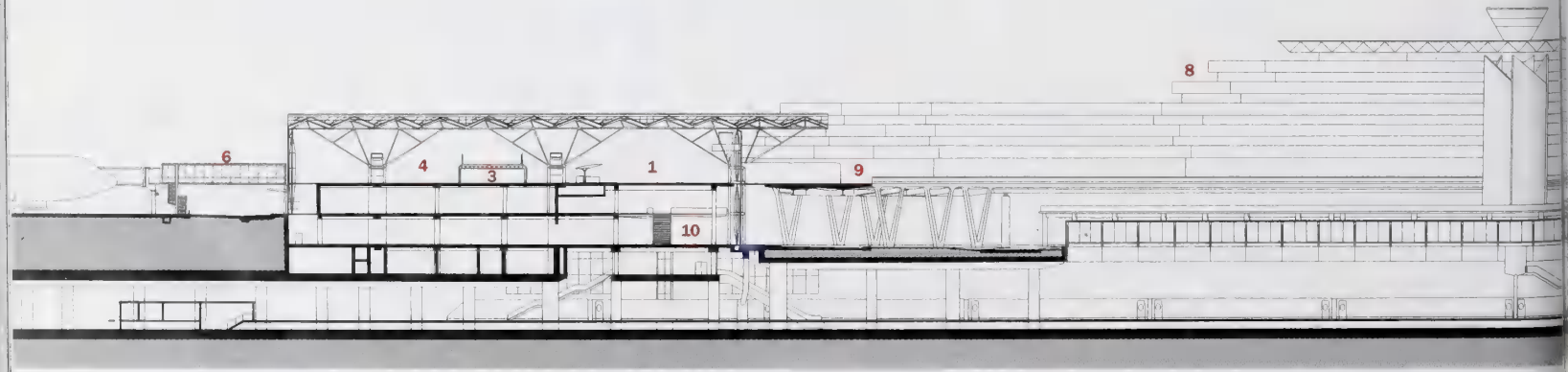
Terminal Two is the signature building in the ensemble, countering the massiveness of Terminal One's concrete with an entirely different tectonic of steel and glass. The desire for openness and transparency is manifest in a 70-foot-high curtain wall that wraps the building's perimeter, right up to the jagged edge of the complex, folded

Jan Otakar Fischer is an architect and critic living in Berlin, Germany.



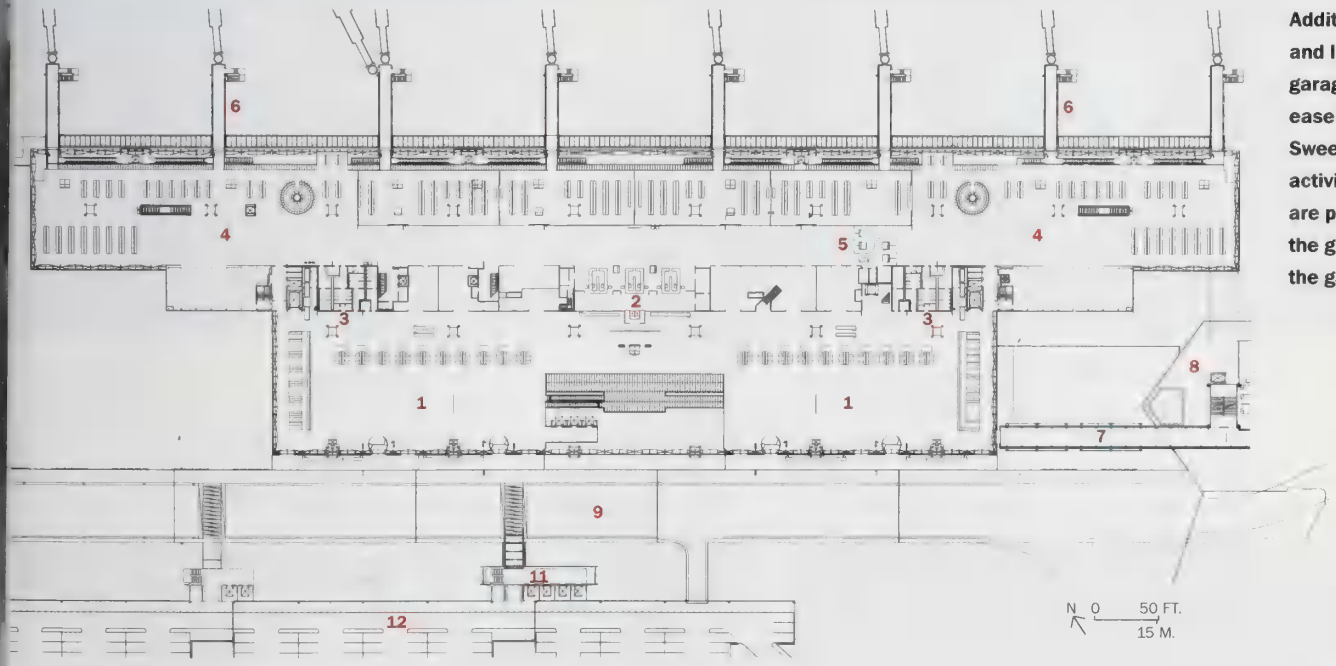
Glazed jet bridges extend out onto the apron where planes land (opposite). The curtain wall (this page) is a system of point-fixed, cable-stayed glazing supported on tapered masts extending from floor to ceiling, creating a pure expanse of glass.





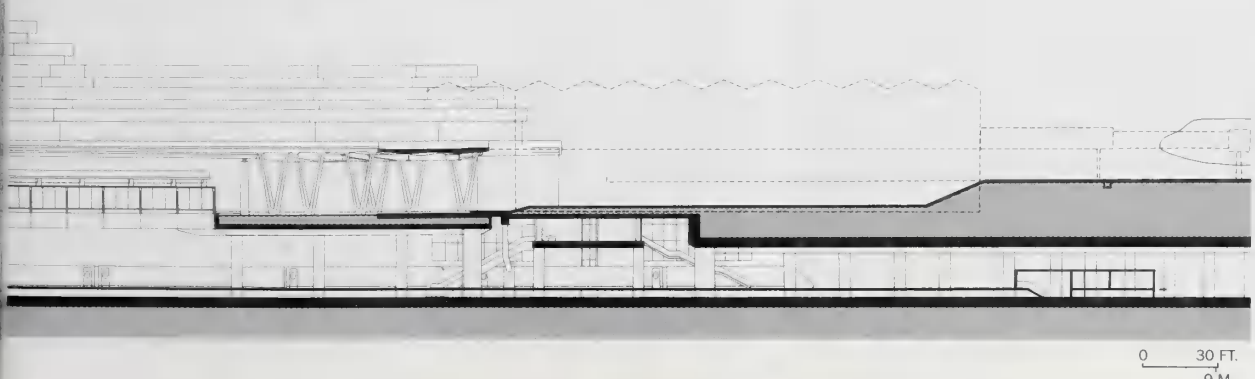
NORTH-SOUTH SECTION





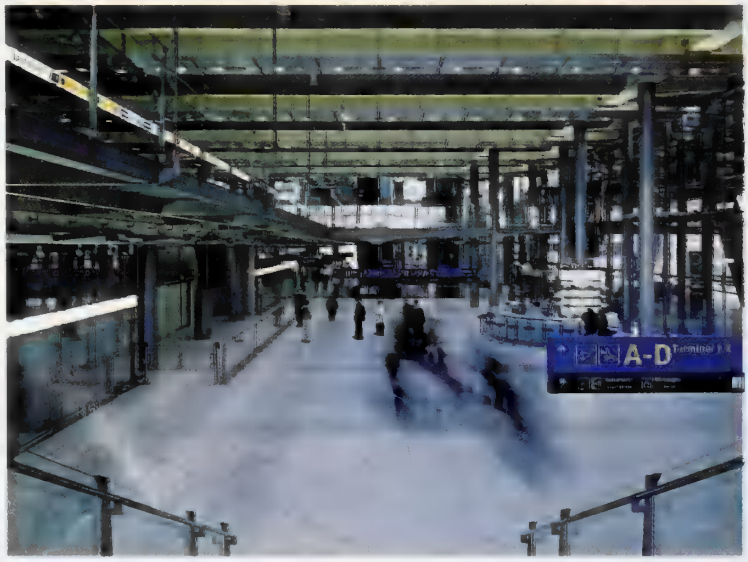
DEPARTURE LEVEL

Additional roadways and links to parking garages (opposite) ease the traffic burden. Sweeping views of the activity on the apron are possible through the glass walls near the gates (above).

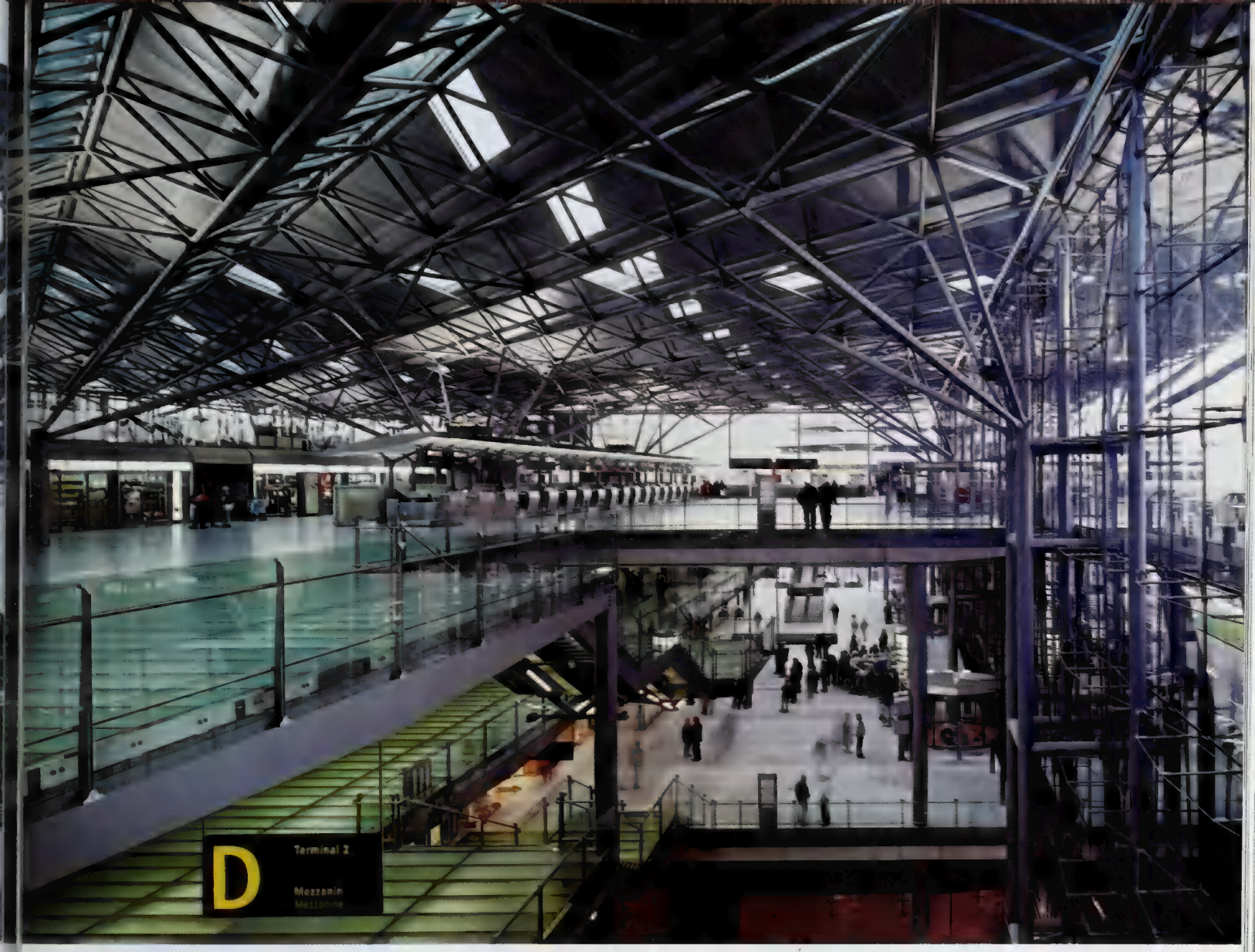


1. *Check-in/departure*
2. *Security*
3. *Services*
4. *Passenger waiting area*
5. *Passport control*
6. *Jet walkway*
7. *Connection to existing terminal*
8. *Existing terminal*
9. *Elevated roadway*
10. *Arrivals*
11. *Connection to parking*
12. *Parking*

A busy security checkpoint (above) is relieved by natural light and generous surrounding space. The interior of Terminal Two is characterized by the ample use of sleek, shiny materials (below left and right), including transparent and opaque colored glass, metals, and mirrored surfaces. The "trees" supporting the roof (opposite) have integrated ventilation columns that project light onto the ceiling.







roof plate. Terminal Two can be understood as a simple glass shed, but also as a laterally expandable bar, 985 feet long and 246 feet deep, built with prefabricated, modular parts. The physical connection between the two terminals, with such disparate structural systems, is smartly limited to a two-level glass-and-steel bridge.

When passengers emerge from airplanes into the arrival hall, their choices of exit by bus, car, taxi, or train are immediately and clearly available. Escalators and glass elevators transport travelers down to the railway station, up to an array of travel agencies on a narrow mezzanine, or up another level to the main concourse, where departures are processed. On this uppermost level, a now-familiar sequence of transitions is defined—check-in, shopping, security, waiting—beneath a vast, skylit ceiling.

Helmut Jahn and Werner Sobeck, the Stuttgart-based engineer who has worked with Jahn for nearly 10 years, coined the term "Archi-Neering" to define what they do in projects like this one, where form and technical prowess are thoroughly enmeshed. Sobeck designed the terminal's glass curtain wall, as well as the rail station's glass roof and the cladding on the parking garages. Arup and Partners and IGH collaborated with Jahn on the roof, whose steel "trees" march along a 99-by-99-foot module. Skylights pierce the north side of each roof fold.

More than 10,000 parking spaces were added to the airport. The six-level exposed-steel decks of the garages are punctured by light courts and clad in stainless-steel-mesh panels or ivy trellises. A twin garage is planned on the south side of the loop.

Commentary

Murphy/Jahn has achieved its goal of providing a new terminal of seamless efficiency and convenience. Terminal Two proves that short routes and rational progress are still possible within contemporary airports. It teems with activity but does not seem crowded or overburdened.

Jahn and Sobeck have shown that their "Archi-Neering" process continues to produce innovative solutions to complex design problems, even if, in some instances here, the profusion of elaborate detail works against the simplicity of the programmatic or tectonic concepts. The material and technical ideas explored throughout the project are impressive for their consistent ingenuity, from the high-tech curtain wall and roof system to the automated baggage-sorting apparatus and the electronic guidance system in the parking garages.

When completed, the high-speed rail system (including the government-owned Deutsche Bahn, which competes with low-cost airlines) should not only reduce vehicular traffic, but also the need for short flights at the airport itself, making Terminal Two truly multimodal in nature. Even now, approaching completion, it is undeniably a pleasure to use. ■

Millennium Rail Line
Vancouver, Canada

3 **VIA ARCHITECTS GUIDED FIVE ARCHITECT TEAMS IN THE CREATION OF 12 INVITING CIVIC ROOMS FOR VANCOUVER'S SKYTRAIN TRANSIT NETWORK.**

By Randy Gragg

Project: *Gilmore Station*
Architect: *Busby + Associates Architects*
Consultants: *Fast & Epp Partners (structural); Agra Simons, Robert Freundlich & Associates (electrical); Klohn Crippen Consultants (mechanical)*
Contractor: *Dominion Construction*
Sources
Composite panels: *Structure Craft*
Uplighting: *Elliptipar*

Project: *Lake City and Braid Stations*
Architect: *Architectura (now Stantec Architecture), with Walter Francl Architect*
Consultants: *C.Y. Loh Associates (structural); Earth Tech Canada (mechanical/electrical); Phillips Farevaag Smallenberg (landscape)*
Contractor: *Westpro Constructors Group*
Sources
Roofing: *Galvalume; Carlisle*
Storefront: *Kawneer*
Stair-tread grating: *Fisholow*

Project: *Holdom, Production Way, and Sperling Stations*
Architect: *Hotson Bakker Architects*
Consultants: *C.Y. Loh Associates (structural); Earth Tech Canada (mechanical/electrical/civil); Durante Kreuk (landscape)*
Contractor: *Westpro Constructors Group (Production Way and Sperling Stations); Dominion Construction Company (Holdom Station)*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Sources
Roofing: *Soprema/Flynn Canada*
Concrete block: *Shouldice Stone*

Project: *Lougheed Town Center Station*
Architect: *Merrick Architecture*
Consultants: *Earth Tech Canada (structural); Klohn Crippen Consultants (mechanical/electrical); Robert Freundlich & Associates (lighting)*
Contractor: *Dominion Construction*
Sources
Galvanized roofing: *IMSA*

Project: *Sapperton Station*
Architect: *Hancock Brückner Eng + Wright Architects*
Consultants: *Glotman Simpson (structural); Earth Tech Canada (mechanical/electrical/civil); Phillips Farevaag Smallenberg (landscape)*
Contractor: *Dominion Construction*
Sources
Wall cladding: *Reynobond*
Storefront: *Kawneer*

Project: *Commercial, Renfre, and Rupert Stations*
Architect: *VIA Architecture*
Consultants: *Glotman Simpson (structural for Commercial), Fast & Epp (structural for Renfre, Rupert); Keen Engineering (mechanical); Sandwell Engineering (electrical)*
Contractor: *Smith Brothers & Wilson (Commercial); PCL Constructors (Renfrew, Rupert)*
Sources
Glulam timbers: *Western Archrib*
Lighting: *Ledalite; Kim*



Major North American transit projects typically are engineered for movement alone, with stations looking about as glorious as roadside rests. Vancouver's new Millennium Line, by contrast, puts an important new emphasis on designing destinations.

The line's guiding force was Lecia Stewart, who served as president of Rail Transit Project 2000 (RTP), the company formed by the provincial government of British Columbia to build the $715 million (U.S.; $1.1 billion Canadian) line. To her, mass transit has made a historic shift from "being about social equity through mobility" to being "a key amenity for livability." She modeled the project on London's Jubilee Line [RECORD, March 2000, page 129], creating a team and process that emphasized each station's urban design, urban development, and architectural opportunities.

First built for the Expo 86 world's fair, the Millennium Line adds 16 miles to a SkyTrain system that had grown to 20 miles with 20 stations. The frequent gridlock (caused, in part, by Vancouver's absence of interior freeways), combined with the 50 mph panoramas of the city's spectacular natural setting, has

Randy Gragg is architecture critic of Portland's The Oregonian.

The sensuous curve of Brentwood (opposite) is clearly spectacular. By contrast, the delicacy of the roof module Busby + Associates developed for the far less costly Gilmore (this page), with its clearly delineated scrim of window wall, sits satisfyingly atop the utilitarian guideway.





Busby + Associates

Peter Busby's firm designed what quickly became the Millennium Line's icon, the **Brentwood** Station (opposite) [RECORD, January 2003, page 104]. Busby bought some of the sumptuousness of Brentwood by transferring $500,000 from the firm's other station, **Gilmore** (this page). With economy, Busby still produced exuberance, creating a delicately jaunty roof from 5-by-10-foot waferboard panels. Sealed with a roofing membrane, their vaulted shape is held in place by steel quadrapods designed and fabricated by the firm's in-house fixture company. Aircraft wire tensions the assembly.



made the first phases of the fast, efficient, high-flying, and wide-windowed SkyTrain popular enough to cover operating costs from the fare box alone. Meantime, during Vancouver's double-digit growth of the 1990s, an impressive spine of transit-oriented, high-rise development has grown, with municipal encouragement, along the line.

The standardized station designs of the earlier SkyTrain segments established the line as a brand with commuters, according to Stewart, who describes herself as a "frustrated architect with a general business background." But with this line serving a primarily suburban population—not to mention being a provincial-government-initiated project slamming through dozens of neighborhoods—Stewart believed the new line needed a more malleable identity for the communities to feel ownership. "The whole station-architecture program," Stewart says, "became critical to building public support."

Program

With a breakneck schedule geared to finishing the project before an important provincial election, time and budget became equal to function in the program. The line's guideway was placed on an independent, fast-track, design/build construction contract for a 13-month completion. The stations, therefore, not only had to be designed quickly, but literally around the concrete viaduct the trains would travel over. According to Alan Hart of VIA Architecture, hired by RTP to lead the architectural side of the line, the most important programmatic demand became the creation of a smooth community-focused process. "That isn't sexy," he notes, "but it's what made the line successful."

Except for minor involvement in selecting the guideway's route, VIA concentrated solely on the stations. Working with the IBI Group, an architectural planning firm, Hart set out to create a wide community-involvement process with a particular focus on strong storyboarding as a jargon-free way to lead people through the issues that *(continued on page 137)*



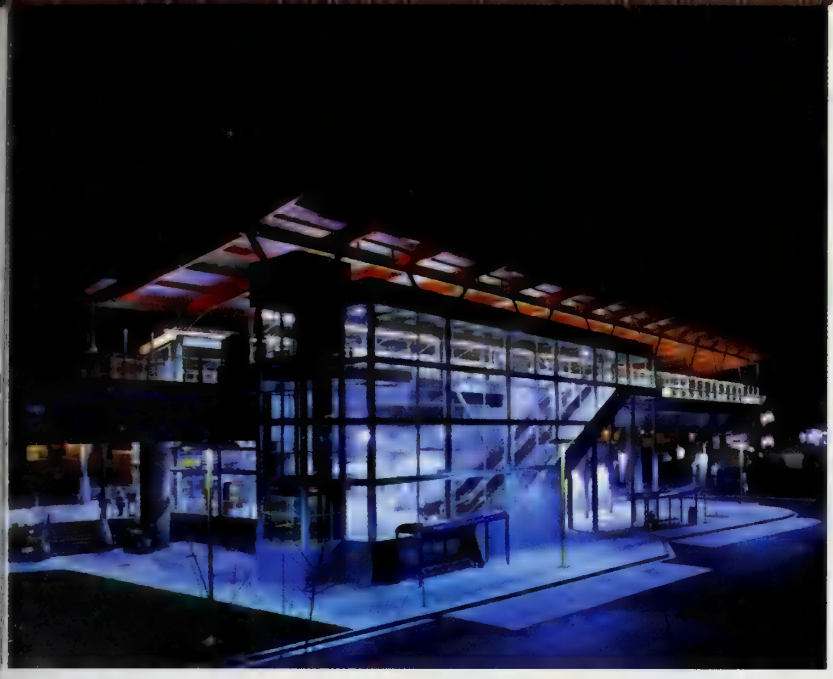


Architectura (now Stantec), with Walter Francl

For an anticipated high-tech office park, Francl and Peter Buchanan (of Architectura, which has since changed its name to Stantec) created the futuristic **Lake City** Station (this page). Appropriately, it seems poised for takeoff. The roof, folded like an eccentric paper airplane, protects waiting commuters from prevailing winds while rising as if to catch the upward turbulence, a dynamism further enhanced by the trusses reaching diagonally across the platform. Artist Katherine Kerr offers a subtler version of the same sense of motion with etched-glass panels that ethereally flash words and images of plant forms (not shown).

For **Braid** (opposite), a station serving the picturesque and once-powerful timber industry center and government seat of New Westminster, the architects chose a simple shed roof supported by hefty glulam beams. Platform walls and roof are articulated as separate, hovering planes. The entry is one of the line's most gracious, welcoming commuters into a foyer large enough to satisfy the town's desire to evoke the grandeur of a 19th-century railroad station.







Built after the rest of the line had been completed, Lake City (opposite) is not alone in looking as if it had been mounted independently of the guideway, an illusion enhanced by the eight elegantly contoured and canted legs that augment the guideway pylons (opposite, top). Its winged theme (opposite, middle) begins at the entrance (opposite, bottom). The architects made iconic use of glulam beams at Braid (this page), from the entrance roof (right) to the platform (top). Turning beam-end protection into industrial-grade ornament, lead designer Buchanan prototyped the oversize flashing in his home shop out of the same standard mill-finished aluminum used on fishing boats.



Hotson Bakker Architects

Using three different project architects, Hotson + Bakker designed a trio of dramatically different stations (this page, from top). The least expensive, **Holdom**, is also the line's most functional, according to both riders and maintenance crews: a simple, easy-to-clean, open-ended box that, among the stations, offers the only full protection from the elements. The weather, however, is welcomed in as art through open light chimneys fitted with vertical sheets of striped glass by artist Graham Scott.

By contrast, a metal-clad wing tops **Production Way**. Sloped against the prevailing winds and the adjacent highway, it rises to welcome in both views of the nearby hills and the students descending in buses from Simon Fraser University. Though somewhat plumply proportioned, the roof is dynamically cantilevered, with the triangular voids of the angled tiebacks filled with glass, by artist Lutz Haufschild, that flashes a rainbow spectrum of color.

Sperling is the Millennium Line's most prosaic station, distinguished only by a V-shaped shed roof and a separate elevator tower connected to the platform by a dull bridge.





Artist-designed light chimneys at the Holdom Station (left) animate the building with shafts of rain and snow or stripes of shadow and light. The tilted canopy of Production Way (below) opens to views. Glass clads a simple, sheltering truss at Sperling (bottom).



(continued from page 134) affected the stations' impact and to "keep the ideas in the lead." By first involving the public in an exercise of redesigning two older stations, the team created a list of requirements and aspirations for all the stations, among them visibility for safety, wood for a sense of regional warmth, and lots of ambient nighttime lighting so the stations would function as secure, neighborhood-identifying beacons.

Hart developed a three-tier categorization for the stations, helping to assign budgets ranging from $4 million to $7 million. "Landmark" stations (such as Brentwood and Lake City) were targeted for major redevelopment sites or else were in high visibility locations. "Transitional" stations (Commercial and Lougheed) would link the line with future or existing transit lines. "Neighborhood" stations (like Renfrew and Rupert) were intended to be modest, finer-grained responses to community context and history.

The overriding goal, according to Hart, was "to create civic rooms, all different, but all of the Millennium Line." Stewart and Hart set up an RFQ process, out of which they drew up a roster of 14 firms to design nine stations not already assigned to VIA. For each station, they invited three of the firms to compete for the design contract by forming teams from a similar roster of preapproved artists and structural engineers.

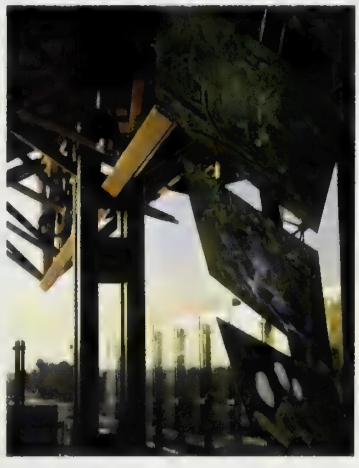
Solutions

A design/build consortium called SAR Transit won the guideway contract with a lowball bid and a take-it-or-leave-it design: a dual-track guideway built from 8-foot-deep, precast box girders on octagonal columns. In most cases, the stations sit atop either a wider section of guideway or a split version for center loading, both reinforced by shorter column spans.

VIA achieved the public's desire for security and nighttime appeal with plenty of glass—around entrances, stairways, elevators, platforms—in short, where people move and where they wait. The necessity of placing wood out of



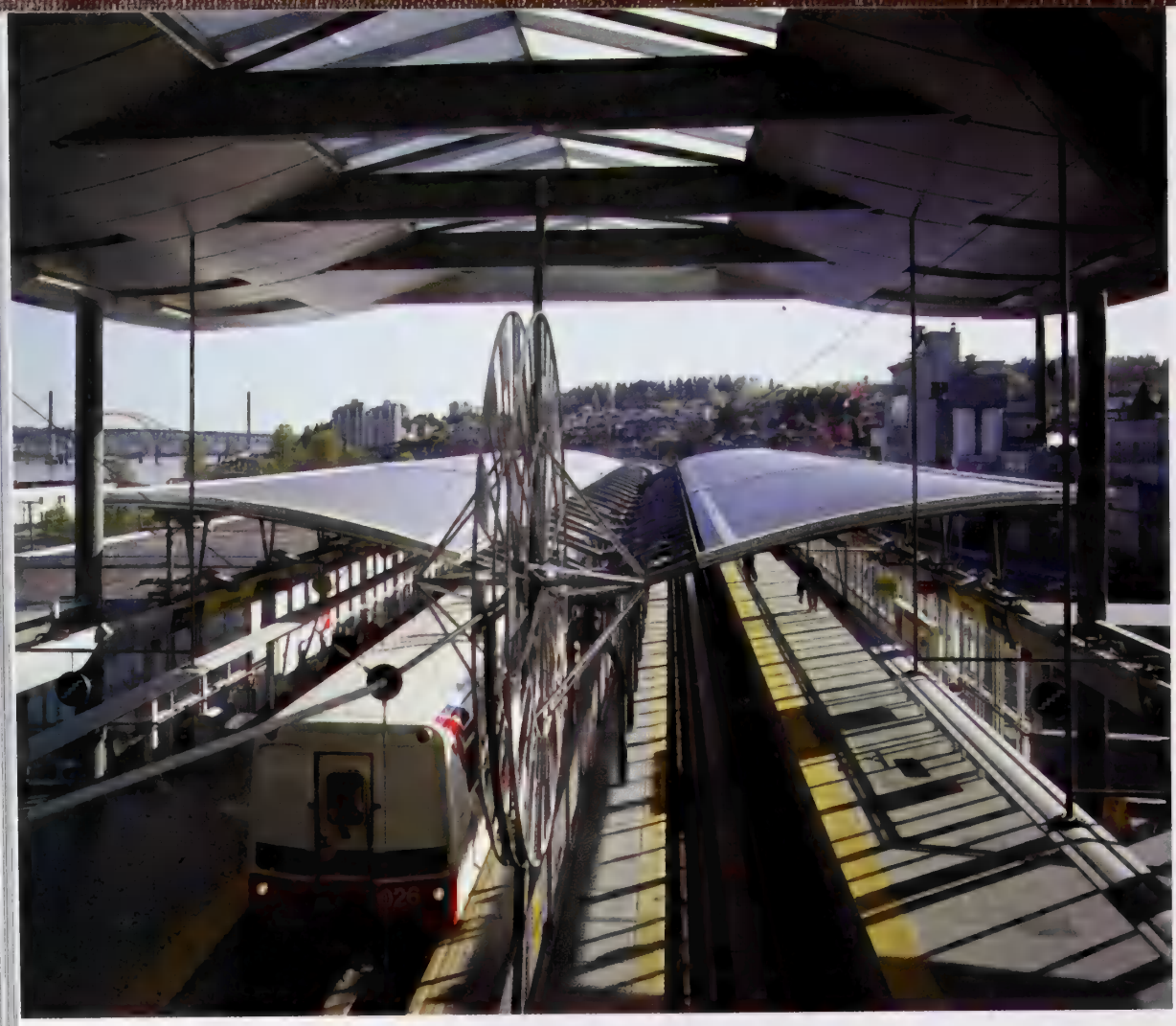




Merrick Architecture

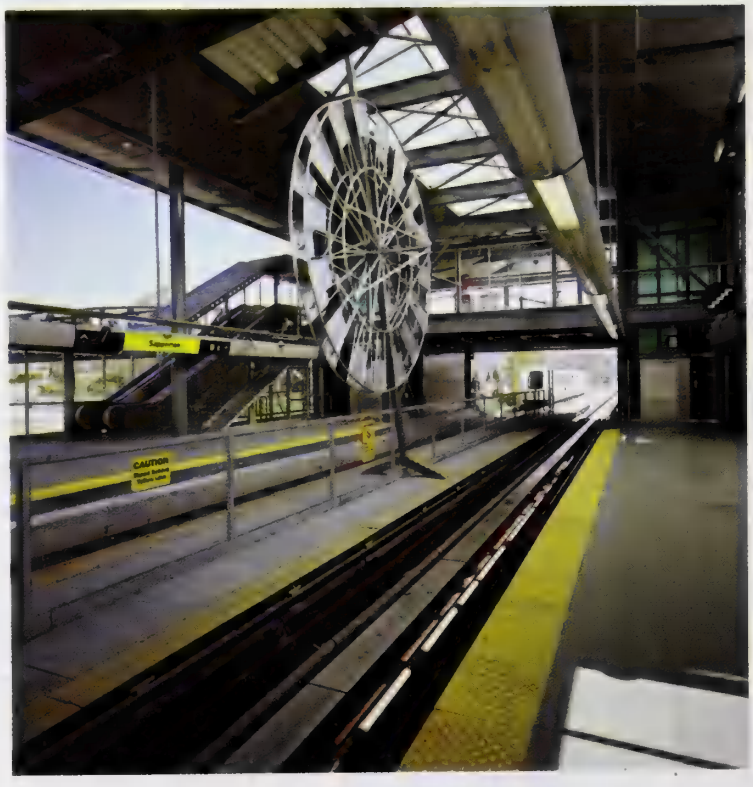
At 240 meters, the **Lougheed** Station (this page) is the Millennium Line's longest. Partner Roger Bayley, a structural engineer, evoked the indigenous rain-forest canopy, held aloft by the longest spans of any station. Three-dimensional trusses stretch as much as 80 meters between clustered columns that—like Gothic spires—unite to pierce the gently curving, metal-shingled roof. Art by Danny Singer (above) evokes a sea-to-mountains journey.

PHOTOGRAPHY: DANNY SINGER



Hancock Brückner Eng + Wright Architects

Wedged between two transnational rail lines with topography requiring all its passengers to enter from a hillside above the platform, the **Sapperton** Station (this page) presented the line's most challenging site. Within view of a trio of high train bridges from three different eras, it also offered splendid inspiration. Architects James Hancock and Thomas Anielski designed an allée of treelike, tubular-steel columns running between the train tracks. As the first station to be designed, contract drawings were done on speculative budgets, necessitating a late-hour switch to a brutal, weathering-steel substructure and a disappointing, box-truss pedestrian bridge. Artist Alan Storey's pedal-operated zoetrope, between the tracks, offers a winning distraction.



Columns branch into cantilevers to support twin, arching canopies (above). A second, higher canopy echoes the lower with inverted arches that cover the upper entry (top).

easy reach of vandals resulted in a number of hybrid structural systems that became what Hart describes as "dialogs of steel and wood."

Commentary

Project chief John Eastman estimates that the additional cost devoted to the individualized station architecture was about 2 percent of the total. Too bad the company didn't apply a similar formula to the 16-mile-long flub that is the guideway. It is built with all the elegance of the freeway flyovers for which it was developed—a sad step backward from the comparatively elegant guideway of SkyTrain's earlier segments.

For the passenger on top, though, the system blends function and pleasure. VIA's integrated system of signage, lighting, and conduit nicely coordinates station wiring along with passengers' needs. Unfortunately, because specifications were delivered late, not all the station architects were able to incorporate the armatures gracefully. In several of the more finely detailed stations, they appear to have wandered in from a different transit line.

The provincial government's obsession to complete the line under budget—motivated by the simultaneous government boondoggle on a "fast ferry" project—took its worst toll on the stations' urban design. As RTP proudly turned back an estimated $50 million, the architects cut back entrance canopies and saw their detailing of adjacent passenger drop-offs and landscaping suddenly evaporate. In the end, the stations vary in how well they function. Problems ranging from heat gain to weather invasion have already required sometimes clumsy modifications. Yet, as an ensemble, the group achieves Stewart's goal of diversity and contextual responsiveness.

With its relative absence of any large, dominating firms, Vancouver has built a rich history of collaborative performances on large projects, among them the University of British Columbia, Simon Fraser University, and Expo 86. With its "civic rooms," the Millennium Line adds an important new chapter to this text. ■



VIA Architecture

Besides master planning the Millennium Line, VIA Architecture designed a trio of stations, under the leadership of partner Graham McGarva. At **Commercial Drive** (below), the designers successfully smoothed a potentially awkward connection between the old and new SkyTrain lines. A procession of bridges and softly curving canopies nicely leads riders by means of sight lines rather than signage over a busy thoroughfare and through a retail center that has become a lively piazza.

Two other VIA-designed stations bookend a future shopping district. Playfully nicknamed "Romulus and Remus" by the firm, the **Renfrew** (bottom) and **Rupert** (top) Stations offer gently arced metal platform roofs undergirded with glulams (in one cantilevered, in the other as beams) on subtly varied tubular-steel supports.

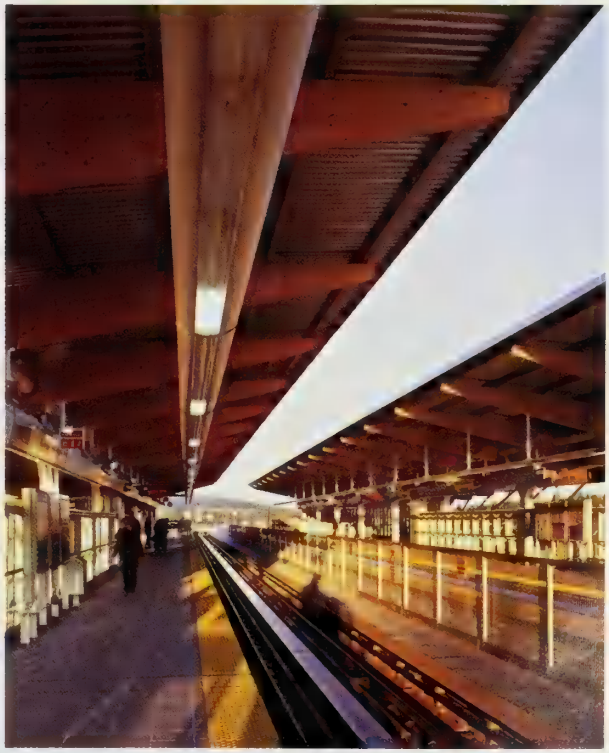
The VIA team also designed what Hart calls "elements of continuity," deployed at all the stations: signage, lighting, tiled waiting areas, stairway handrails and treads. The idea was to deliver essential information predictably and make wayfinding easy within the highly varied station designs.

The Commercial Drive Station navigates a vertical separation of 50 feet (near right). A system common to all the stations, also designed by VIA, integrates platform signage and lighting (far right). The inviting night lighting at the Rupert Station (above) conveys an image of security. Cantilevered beams subtly distinguish Renfrew (below) from its sister station.









PHOTOGRAPHY: © ED WHITE PHOTOGRAPHICS

McNamara Terminal
Detroit Metro Airport, Romulus, Mich.

4

SMITHGROUP TRANSFORMED AN OLD AIRPORT INTO A HUGE NEW TERMINAL THAT SERVES AS A WORLD GATEWAY FOR A RESURGENT DETROIT.

By John Gallagher

Project: *McNamara Terminal/Northwest World Gateway, Detroit Metropolitan Airport*
Architect: *SmithGroup—David R.H. King, FAIA, lead design architect; Wayne Bills, AIA, project manager; Jim Luckey, AIA, design architect; Mark Pipas, AIA, project architect; Tom McCarthy, aviation planner; Paul Culpepper, Ravi Dhyani, David Hoffman, Maureen Greenway, Paul Johnson, Frank Muehlenbein, Richard Skowron, Frank Weber, design team*
Owner: *Wayne County*
Developer: *Northwest Airlines*
Consultants: *Geiger & Hamme (acoustical); Mills/James Productions (passenger tunnel systems integrator)*
General contractor: *Hunt Construction Group*

Size: *2 million square feet*
Cost: *$650 million*
Completion date: *February 2002*

Sources
Metal curtain-wall panels: *Centria (installed by Crown Corr)*
Glass curtain wall: *American Glass & Metals*
Aluminum windows: *Moduline Vistawall*
Glass in tunnel: *Viracon Foxfire*
Resilient flooring: *Armstrong*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

Back in the high-flying 1990s, U.S. airlines saw no end to their growth. Since then, recession, terrorism, and SARS-related travel fears have grounded their soaring expectations, at least for now. But not before Northwest Airlines, the nation's fourth-largest carrier, completed a new terminal at its biggest hub, Detroit Metropolitan Airport.

When Detroit Metro's old Davey Terminal was shiny new in 1966, the airport handled 4 million travelers a year. By 2000, annual passenger traffic had swelled to 35 million, and Northwest was carrying 75 percent of the load. For many years, the airport, run by the local Wayne County government, coped with growth by building one concourse after another off of the existing terminals. Those snaking concourses created long walks and lengthy connection times. By the mid-90s, enough was enough. Cramped, inefficient, and woefully overcrowded, Northwest's biggest hub needed a complete overhaul.

Program

Not just another concourse, the new terminal had to serve as a connecting hub, a place where close to two thirds of all passengers flying in and out merely changed planes, never leaving the building. Many connecting airports send passengers

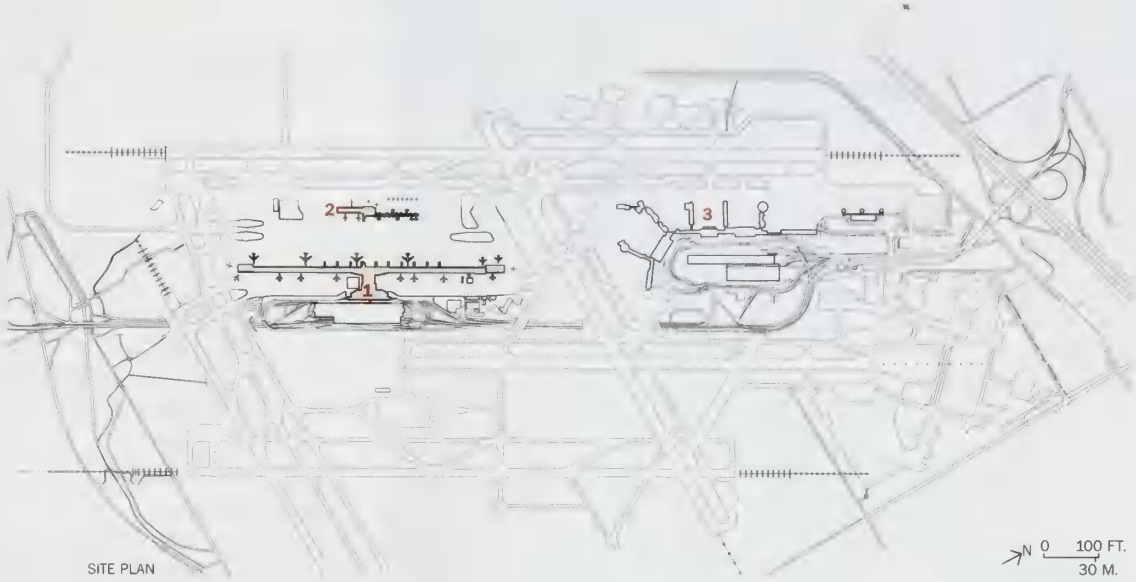
John Gallagher is the architecture critic for the Detroit Free Press.





The east concourse (left in photo opposite, top) extends for nearly a mile and has 64 gates, while the shorter west concourse (right in photo opposite, top) has 33 gates. The drop-off canopy (opposite, bottom) and curving ceilings (below) evoke images of wings and flight.

1. *East concourse*
2. *West concourse*
3. *Existing concourses*



SITE PLAN







With ceilings rising as high as 70 feet and a diagonal king-post truss system that allows structural spans of up to 87 feet, the terminal's interiors (this page) feel spacious and offer long views that help passengers orient themselves. An overhead tram runs in the terminal itself (opposite), rather than between terminals, making connections between gates faster.

scurrying from one concourse to the next, as Detroit Metro used to do. Northwest wanted the connections to be as seamless as possible.

Moreover, the airport needed to be built on a grand scale. As the leading U.S. carrier to Asia and a big presence in Europe, Northwest required gates to service jumbo jets overseas, as well as ones to handle its millions of domestic passengers.

Northwest also wanted the new terminal to showcase the airline as a major player and likely survivor in an industry that, even before 9/11, was facing brutal competition and consolidation.

Finally, the terminal had to function as a gateway to Detroit, a proud city emerging from a long economic night with a number of major building projects.

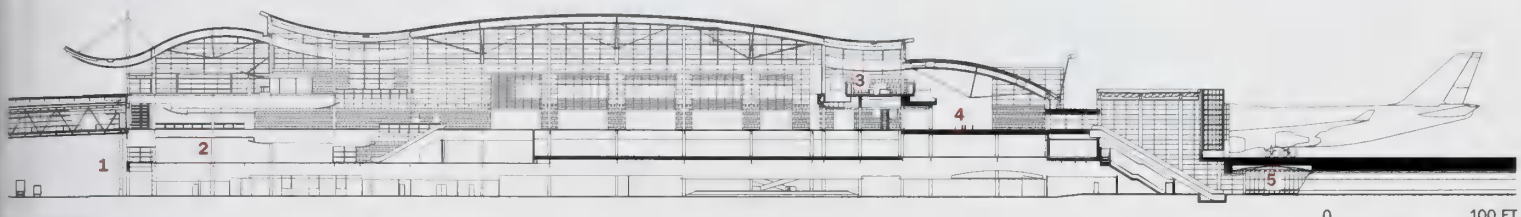
Solution

Detroit-based SmithGroup created a mile-long main building and a shorter parallel concourse connected by an underground pedestrian tunnel. With nearly 100 new shops and restaurants, high ceilings, and expansive sight lines, the design creates the sort of dramatic space that both Northwest and Detroit sought. SmithGroup centered its design on simplicity and restraint, using neutral colors, great expanses of 18-foot-tall windows, and wing-shaped ceilings that rise as high as 70 feet. A diagonal king-post truss system allows structural spans up to 87 feet, resulting in a column-free space that offers long views through the building and helps passengers orient themselves.

Combined with a new entry road and garage, the new terminal transforms Detroit Metro Airport. The older terminals now provide more room for other carriers and will be renovated over time.

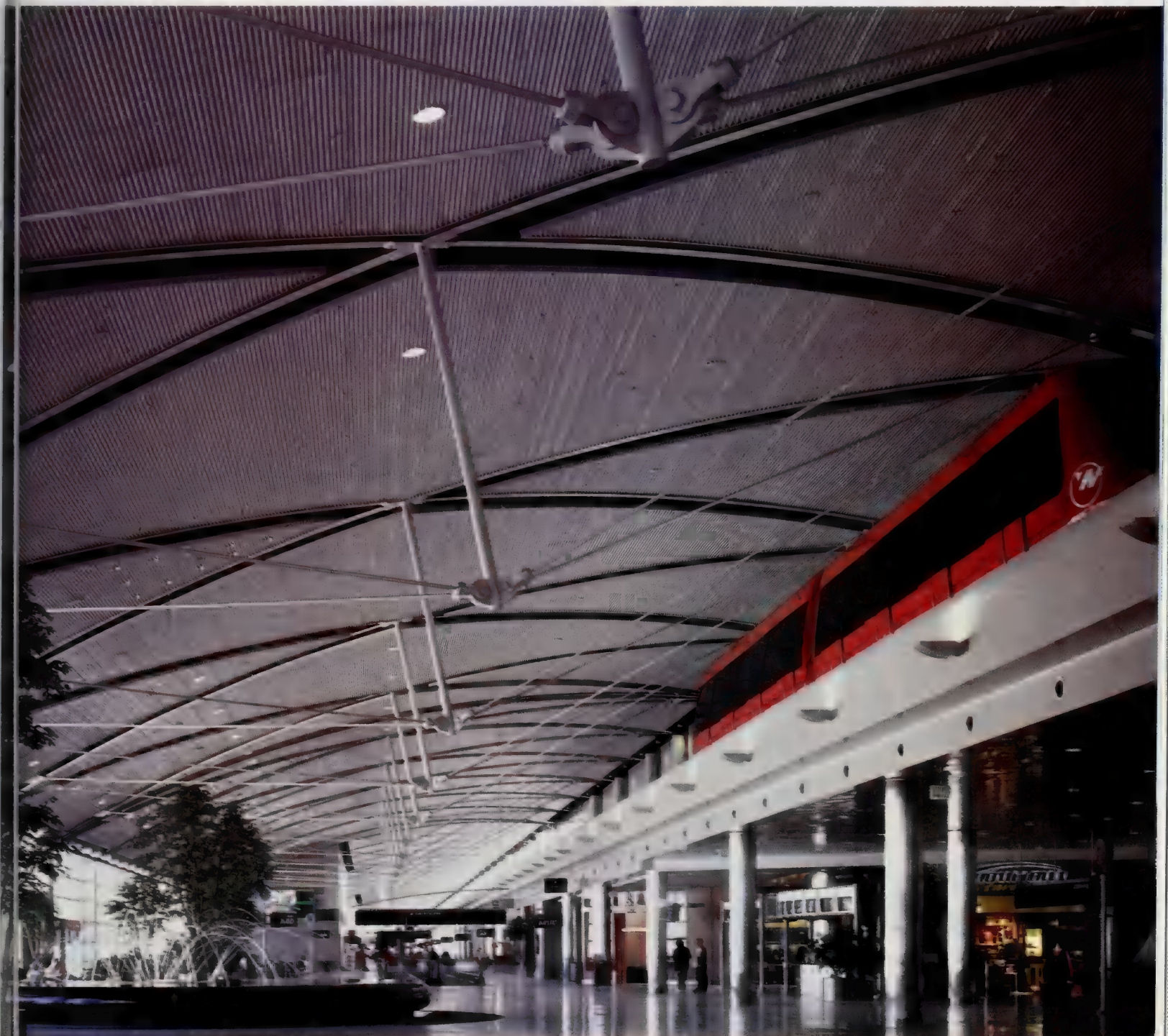
Set in the airport's midfield area with runways on either side, the new terminal with the adjoining entry has 64 gates, 106 ticketing positions, nearly 100 e-ticket machines, and a three-stop overhead tram to speed passengers between connections. The smaller west concourse has 33 gates. An

1. *Landside entry/drop-off*
2. *Ticketing/check-in*
3. *Tramway*
4. *East concourse*
5. *Tunnel between concourses*



0 100 FT.
30 M.

EA WEST SECTION



An 800-foot-long pedestrian tunnel runs underground between the two new concourses and comes alive with a colorful, continually changing sound-and-light experience (below and bottom).





800-foot-long tunnel connecting the east and west wings offers a changing sound-and-light experience.

The new terminal includes some 9,000 Eames-designed seats with polished aluminum frames and vinyl sling seats and backs. It also has more than double the number of security checkpoints of the old terminal, a measure that has proved more important since 9/11.

Operationally, dual taxiways allow aircraft to move more efficiently on the ground, and gate flexibility provides for 10 wide-body, 62 domestic, and 25 commuter aircraft. Northwest's old hub operation had just four luggage carousels; the new terminal includes 11 domestic and 7 international carousels. In the main concourse is a 39-foot-wide, black-granite water feature with choreographed jets of arcing water designed by WET Design.

The 2-million-square-foot terminal complex cost $1.2 billion overall, including $650 million in construction costs, and took four years to complete.

Commentary

SmithGroup has produced the first airport of the aviation industry's second century. Connecting passengers face an easy walk or tram ride from gate to gate and enjoy plenty of visual stimulation along the way. The terminal's enormous capacity should prove adequate for years, even after passenger totals start trending upward again.

With so many passengers never leaving the building, SmithGroup made little pretense of creating a fancy wrapping for the terminal, facing it in nondescript off-white panels. Then, too, those passengers who begin and end their travel in Detroit face a somewhat cumbersome walk down to baggage claim, back up to the ground transportation area, and into a truly mammoth parking garage.

Quibbles aside, one can only hope Northwest rides out the industry's current economic woes. It would be a shame to create such a state-of-the-art building and then not be around to enjoy it. ■


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New Directions for an Old Building Type

THE DESIGN OF LABORATORIES AND TESTING FACILITIES HAS EVOLVED SINCE THE DAYS OF THE MAD SCIENTISTS AND THE BUBBLING BEAKERS. NOW THEY LOOK AND FEEL MORE LIKE BUSINESSES

By Barbara Knecht

Certain specialized building types in the 20th century tended to follow a programmatic formula, with form strictly following function. This was particularly true of scientific laboratories and testing facilities. The 21st-century lab, however, demands more flexibility, as its functions constantly change and new technologies make its design less prescriptive. The following projects show just how varied and complex the laboratory building type has become. Each architect was confronted with a different challenge, ranging from officelike flexibility (SmithGroup's Genentech Hall) to energy conservation and sustainability (Kiss + Cathcart's Smithsonian Tropical Laboratory) to new earthquake-testing technology (Simpson Strong-Tie's testing facility).

Lab as office building

Genentech Hall is the flagship research facility (434,000 square feet) of the University of California, San Francisco's (UCSF) new campus. It is also the first building to go up at Mission Bay, a 303-acre development site on the edge of San Francisco Bay south of downtown. With well-tested planning concepts and the advantages of new construction, the San Francisco office of the national firm SmithGroup has designed a highly flexible building. "We used a planning concept that we came up with 10 years ago for a renovation of UCSF's old building. Other architects have improved it in subsequent renovations, and we have updated and improved it again in this new building," explained SmithGroup's senior vice president, William L. Diefenbach.

Until recently, lab floor plans were fixed by the location of lab benches with a power, water, and compressed-gas infrastructure servicing them. Reconfiguring them was costly and time-consuming and not undertaken lightly. Now, of course, scientific research evolves at such a lightning pace that change must take place often and quickly. The composition and work content of the research teams fluctuates regularly. As Diefenbach observed, "When we began planning this project five years ago, no one knew exactly which scientists would move in, or what proportion of rooms would be needed." With flexibility an imperative, the key to flexibility became repetition of the module, the infrastructure, and the casework.

In other words, it needs to resemble more closely an office building, with easily recognizable open-plan areas and a few fixed elements. Of course, it isn't that simple. The interdisciplinary and specialized nature of the biomedical work in Genentech Hall still calls for substantial equipment and heavy infrastructure. Requirements for water, power, compressed gasses, data, and telecommunications vary widely. Minor changes are a routine occurrence; reconfigurations are frequent.



An open stair in the light-filled atrium at Genentech Hall is meant to encourage social interaction.

PHOTOGRAPHY: © MARK LUTHRINGER, EXCEPT AS NOTED

Barbara Knecht is an architect and writer based in New York City and Boston.

CONTINUING EDUCATION

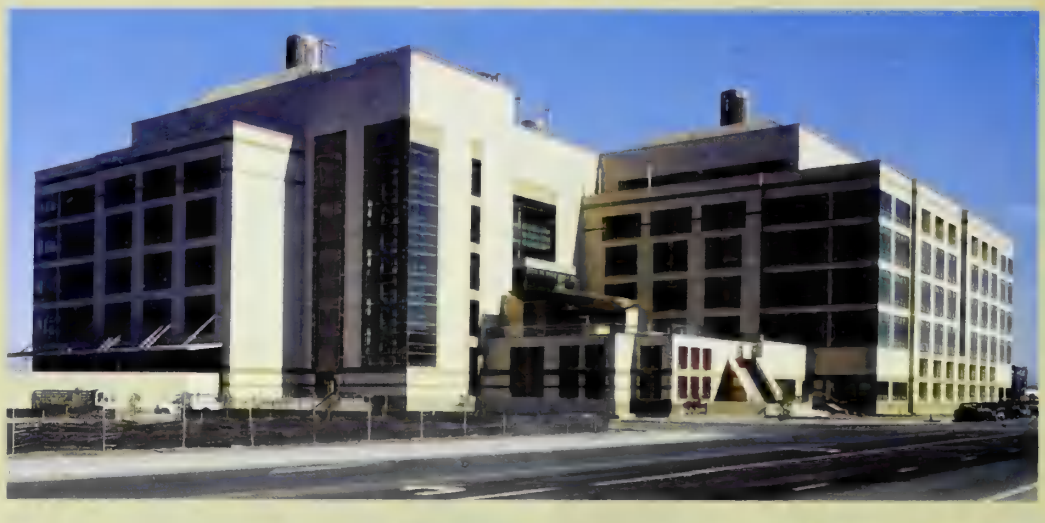
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 152 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *Discuss what is necessary to make laboratory layouts flexible.*
2. *Explain how to make use of passive environmental controls in a tropical climate.*
3. *Describe how earthquake testing is being done for wood structures.*

For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**.







Genentech Hall, San Francisco, California
This biomedical research facility (left) is organized around a 12-foot-wide circulation corridor, which separates two wings, each housing two suites (see plan, opposite). Closed support labs (bottom left and right) line the U-shaped corrid and can easily be reconfigured to acc modate a variety of functions. Utilities r in the ceilings, with umbilical connectio to the lab benches. skylight (opposite) floods the entrance atrium with light.

At Genentech Hall, there are more fixed elements, to be sure, than in an office building, but conceptually the organization is similar. The basic lab planning module is 10 feet 6 inches, with modular work benches and frequent infrastructure connections. The organizational module is a lab suite 110 by 110 feet, containing open and closed labs, an office suite, and an open space for informal interaction. "That module is the footprint of the old building, but it works so well for the university that it became the planning unit of the new building," says Diefenbach. That 110-by-110-foot module is flipped, rotated, and/or stretched to form all the lab work areas in the new building.

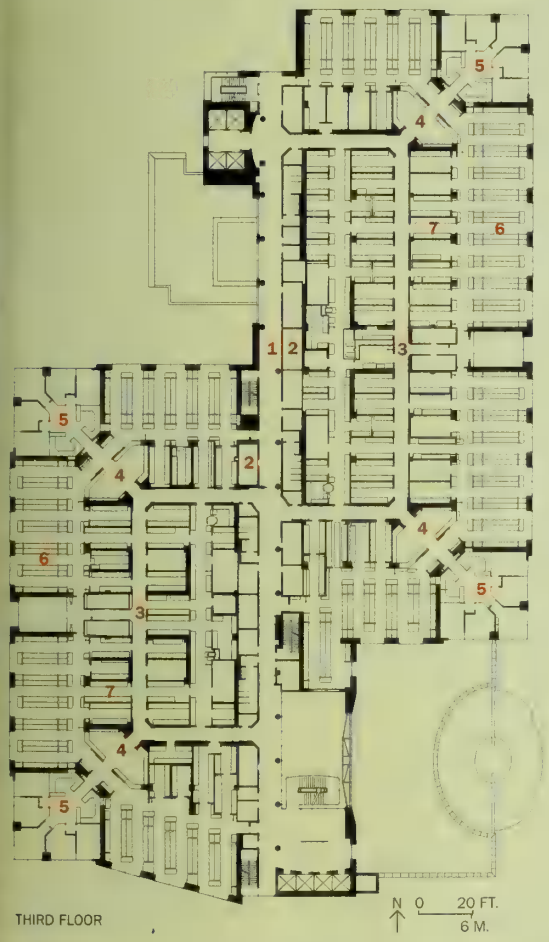
The building is organized along a generous 12-foot-wide, east-west circulation spine anchored by public spaces on either end that link to the surrounding street and campus. Lining the spine on both sides are similarly dimensioned zones of building support that carry all the vertical chases, risers, exhaust, toilet rooms, janitor closets, and bike storage. The first floor and half the second floor are special functions. Lab wings fill the rest of the building to the north and south of the spine. Each lab wing is divided into two lab suites roughly equal to that original 110-by-110-foot module.

Each suite is entered at the corner of a U-shaped corridor connected to the spine. The entrance leads through an informal library/meeting/lunch space across a corridor, which leads to labs and into the office suite that occupies the corner of the building. Open labs line the exterior walls on either side of the office suite; closed support labs line the interior U-shaped corridor. The organization of the modules, with lots of socializing spaces, wide corridors, and varieties of public spaces, support the lively interactive nature of the research and teaching environment.

Utilities run in the ceiling, with umbilical connections every 10 feet 6 inches to the lab benches. The custom-designed modular lab benches are 15 feet long with an office workspace at either end. The office space is separated from the lab bench by a vertical support that isolates spills, carries the utility connections, and supports the shelves over the benches. The utilities run horizontally through the lowest shelf, behind the task lighting. Every other bench is left completely free to be moved around or to be removed and replaced by floor-mounted equipment.

These open-plan lab spaces can often be reorganized by the

1. *12-foot-wide spine*
2. *Building utility zone*
3. *Lab wing comprising two equal lab suites*
4. *Meeting/lunch/library space*
5. *Office*
6. *Open labs*
7. *Closed labs*





scientists themselves. They move the lab benches and replace them with equipment. Every other lab bench has a clerestory window from the top of the bench to the underside of the ceiling to provide separation between working teams. These groupings can be expanded or contracted easily, as the windows are simply attached into a frame with four pins. More extensive reworking of the space might require tradesmen, but this too is easily and economically accomplished because valves and stubs make connections and shutoffs of small sections of the building possible. Ultimately, if needs change so significantly, entire floors could be completely gutted back to the spine corridor and reconfigured.

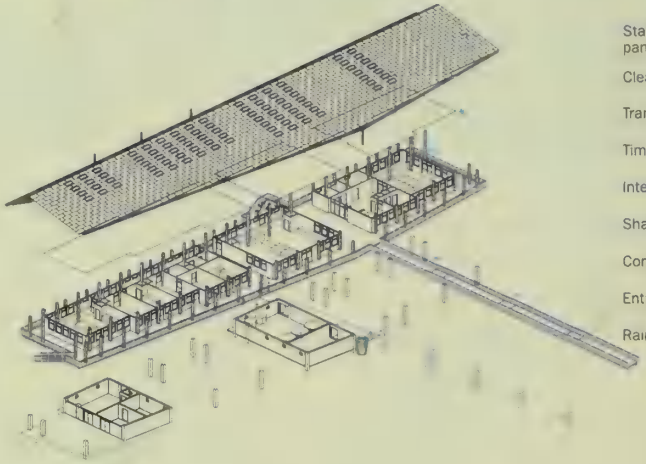
The success of the planning concept was tested when it came time for move-in during the spring of 2003. The underlying scheme was able to accommodate an infrastructure-dense biochemistry lab and an infrastructure-light computational lab with very low modification costs and time. Support labs are similarly flexible. In one case, all the cabinetwork was removed and a "freezer farm" was installed. "The trick to flexibility like this is to figure out how to balance the least up-front cost with the most flexibility," says Diefenbach. "There is some increased cost of using more valves instead of a stub and cap. Similarly, there is some incremental cost to the movable lab benches. But the advantages in flexibility and in renovation costs compared to these first costs is significant."

A passive and aggressive solution

The Smithsonian Tropical Research Institute's (STRI) Bocas del Toro field lab, designed by New York City firm Kiss + Cathcart Architects, sits as close to the water as Genentech Hall. But there is no similarity between the tropical environment of western Panama and the urban San Francisco Bay Area. At 10,000 square feet of indoor space and an equal amount of outdoor space, it is a fraction of the size. Like Genentech, however, it accommodates a lively mix of students and scientists. Bocas del Toro is one of number of Smithsonian field stations where visiting researchers come to study marine and terrestrial life from the mangrove swamps, the ocean, and the freshwater pond that surround the building. In this complicated environment, this project took on the challenge to construct an environmentally sustainable building.

"Bocas is one of those magical places that is on the edge of







Smithsonian Tropical Research Institute, Bocas del Toro, Panama At this field station (above), visiting researchers study marine and terrestrial life. The double roof consists of a flat translucent lower roof and a pitched roof made of photovoltaic (PV) and clear glass panels for natural light. The PVs provide enough power to preclude the need for a generator.

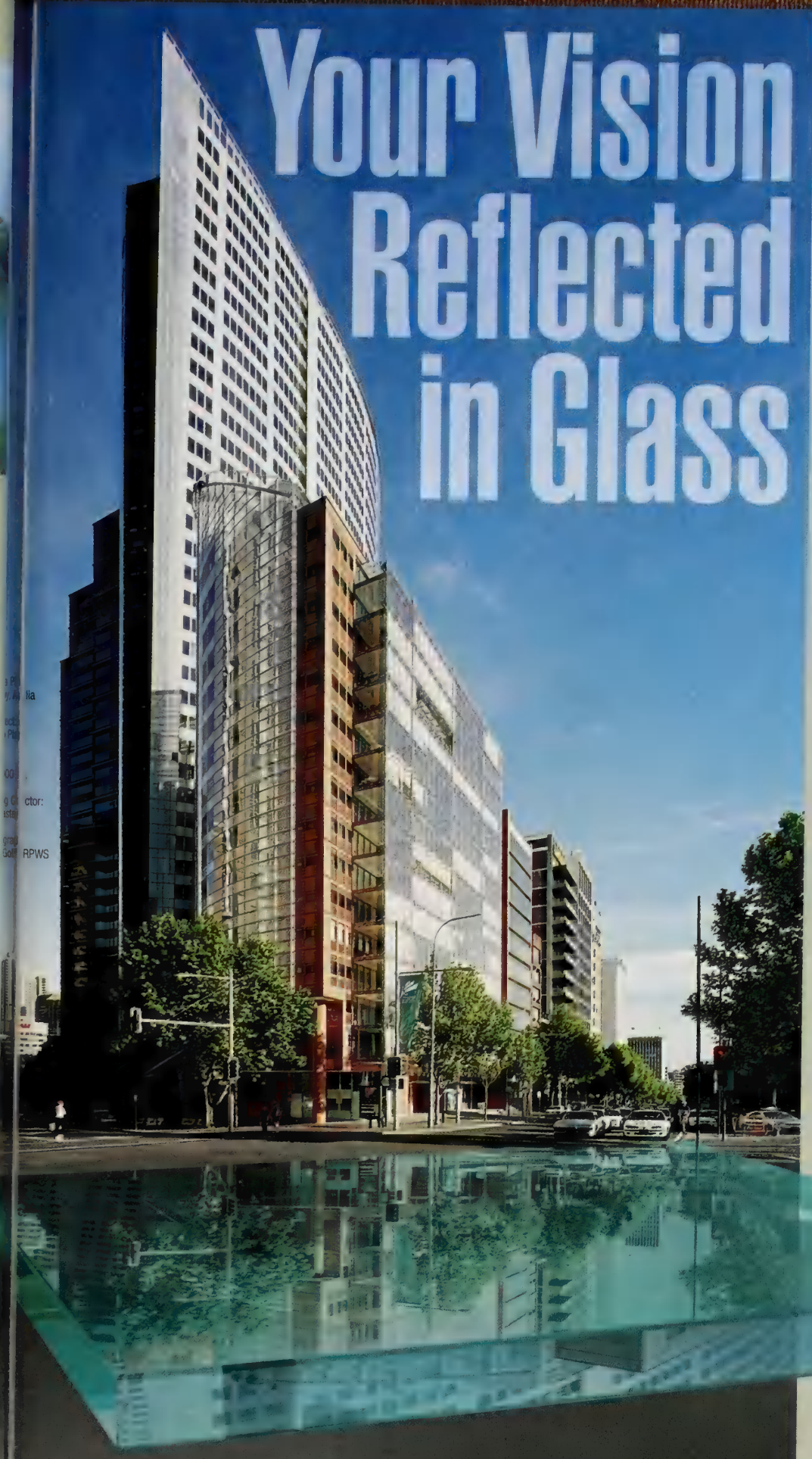
accessibility. There's really no infrastructure, and we really do have a responsibility to demonstrate a more sustainable way to build in the landscape and the climate," explained Sheryl Kolasinski, AIA, director of the Office of Project Management at the Smithsonian Institution. "We have been working with the Department of Energy to take advantage of funds they provide for photovoltaics (PV) and other sustainable things that are considered 'extras' for government agencies. That, advocacy from our own design department, and interest from the management of STRI to move beyond the concrete box structures that have been the common denominator of our buildings in Panama led to a set of design principles for sustainability to guide the design of this building."

"We have a commitment to work toward buildings that will have zero impact on the environment," says Greg Kiss, "and this building is the closest we have been able to come so far." The site, at 9 degrees from the equator—adjacent to a mangrove swamp and an alligator pond—is warm, rainy, humid, and remote from utility infrastructure. The challenge was to make as much use as possible of passive environmental controls in a climate and building type where air-conditioning is the usual means of preventing things from molding and equipment from malfunctioning. The responses include natural cooling, water recycling, and power generation.

In a nod to local traditions, to minimize impact on the site, and to take advantage of naturally cooling breezes, the building is raised off the ground. It is long and narrow with substantial overhangs for cross ventilation and to shade the windows. Of course, these would be useless benefits even if this were a typically air-conditioned facility. But this building has multiple zones, operable windows, and ceiling fans. The well-shaded verandas surrounding the building and individually controlled zones give scientists the option of working inside and outside, which is desirable for specimen collection and study.

The Smithsonian hasn't been able to implement all the "off the grid" energy solutions. The budget was extremely tight, and first costs are still higher than conventional solutions; therefore, some features will be phased in as funds become available. But the concepts are exemplary, and it will be environmentally and financially valuable when completed. Two parts of the water-management system that will be delayed are the rainwater storage tanks and composting toilets. It rains some 225 inches a

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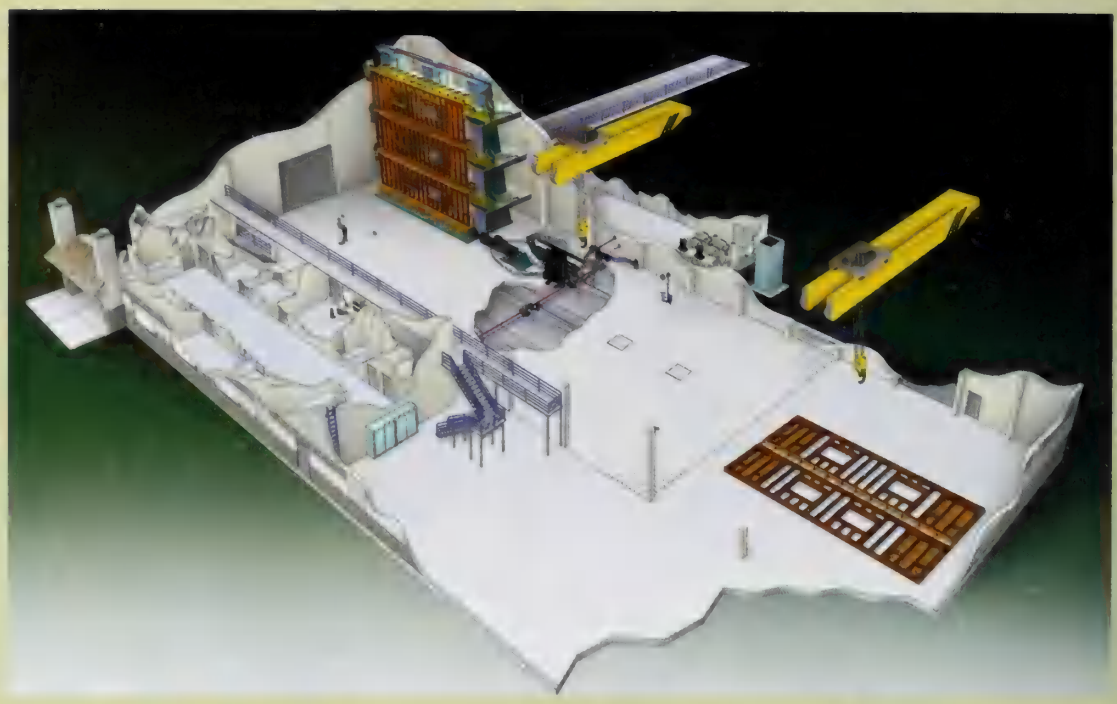
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Tyrell Gilb Research Lab, Stockton, California
Full-scale sections of wood-frame construction are studied using a shake table (above). The section is bolted to the table, and mass is provided by an adjacent tower structure. Each platform in the tower has carts, or boxes, which are attached to the wall section by horizontally mounted, triangular plates. Called "A arms," the plates simulate the dead load of the structure without increasing its stiffness.

year, and the water is purer than municipal supplies, so it will be easily treated and recirculated. Composting toilets will distribute waste to an engineered wetlands that uses plants, animals, insects, and bacteria to digest the nutrients in the waste. The fact that the lab doesn't permit the use of any toxic chemicals makes this alternative particularly attractive, as there is no need for a secondary chemical drainage system.

The roof is a particular success story. It combines active and passive systems to reduce cooling loads, provide natural light, and produce electricity. As a double roof composed of a flat translucent fiberglass roof that encloses the air-conditioned space and an upper pitched roof of PV and clear glass panels, it minimizes direct solar gain. "Photovoltaics are the best energy source there is," says Kiss. "There are no negatives except cost. The trick is to make the cost of the PV roof approach the cost of a conventional roof." The key to reducing the costs is Building Integrated Photovoltaics (BIPV), that is, where the photovoltaics are the watertight roof instead of an addition to the roof.

"This roof uses the lowest cost (thin film amorphous silicon) cells in a standard product that we adapted so that it would need no significant additional framing or structure in order to function as a watertight roof," explains Kiss. "We worked with TerraSolar, a Brooklyn manufacturer, to develop a panel with a custom aluminum extrusion. It functions as a shingle that is screwed directly to the structure, and subsequent panels fit into the extrusion of the one above." The power generated by this roof saved the cost (and noise and pollution) of supplying power by a freestanding generator.

Building with the shakes

The Tyrell Gilb Research Lab in Stockton, California, is intriguing not for its response to functional, spatial, aesthetic, or environmental requirements, but for its pure solutions to engineering dilemmas. And that includes what goes on in the building, as well as the building itself. Simpson Strong-Tie, a company that designs and manufactures structural connectors and related products, has created a structural-engineering and research lab to test the performance of large-scale, wood-frame structures in response to high winds and strong earthquakes. Opened in July 2003, it features large, heavy equipment and a massive foundation to support it.

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In January 1994, the 6.7 Northridge earthquake struck in the heavily populated San Fernando Valley near Los Angeles. The $20 billion damage to multistory, light-wood frame construction was staggering, outstripping by far the losses of any other single type of construction. The enormity of the loss highlighted a need for more testing of how wood and light-frame structures perform. "Earthquake testing exists primarily in university settings, but it usually focuses on concrete and steel, not wood and light frame," explained Steve Pryor, Simpson's building systems research and development manager. "Northridge provided the impetus for the Federal Emergency Management Agency (FEMA) to invest $7 million through the state of California over four years to study wood-frame construction." The new Simpson Research Lab grew out of Pryor's observations about testing methods and the company's expectation of product improvements. "We will use this facility to develop better products. We will be able to study how things currently work, to better understand the weak points and how to address them cost-effectively to mitigate damage in a building," says Pryor.

There are large pieces of equipment that perform two kinds of tests. A wall section is bolted to a support frame and a computer-controlled hydraulic actuator tests the strength characteristics of the wall by pushing and pulling it to failure. Sensors allow the computer to record measurements 1,000 times per second.

The most realistic test of how a structure will react to ground motion is shake-table testing. Pryor explains that usually a full-scale structure is constructed for shake-table testing. However, in order to measure cause and effect, the table moves the structure in only one direction at a time. "One-directional testing is done for research; three-directional testing is done for 'proof of concept.' We developed a unique shake table that will simulate a full-building response with only a wall section, which can be built much more quickly. By reducing the overall experiment preparation time, we can learn at an accelerated rate."

What kind of a foundation can resist all that weight and motion? Pryor explains, "The structures we are testing may weigh 60,000 pounds and the equipment is 40,000 pounds. The rule of thumb says that mass wants to push against something with 100 times its weight, or 10 million pounds! The 'strong floor' to support the equipment is 60-feet long supported at the edges and three interior points with walls 1 foot thick that are supported by a 2-foot-thick mat foundation. The floor itself is 3 feet thick. Together they provide 10 million pounds of resisting mass and can handle a 300,000-pound point load. In comparison, the largest shake table in the world, under construction near Kobe, Japan, is slicing off the top of a granite mountain and using the remaining mass for its foundation."

These projects are excellent examples of how thoughtful design refinements improve the performance of highly specialized structures, from carving modular lab suites out of office space to applying new technology to ancient environmental concepts. Rather than reinventing the building type, these projects show that architects can negotiate the right design solution through integration, modification, innovation, and finesse. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "New Directions for an Old Building Type" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 208).**
- **Fill out and submit the AIA/CES education reporting form (page 208) or download the form at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. Laboratory floor plans are usually fixed by the location of all except which?
- **a.** benches
- **b.** power
- **c.** lighting
- **d.** compressed gas

2. Why do lab layouts need to be changeable?
- **a.** research evolves at a fast pace
- **b.** research teams are unreliable
- **c.** fast-track building leaves many unknowns
- **d.** researchers want to individualize their space

3. The key to flexibility includes all except which?
- **a.** casework
- **b.** infrastructure
- **c.** single-story buildings
- **d.** repetition of the module

4. For a laboratory to resemble an office building, which is necessary?
- **a.** substantial equipment
- **b.** heavy infrastructure
- **c.** open plan
- **d.** many fixed elements

5. How were the labs at Genentech designed to be flexible?
- **a.** utilities run in the ceiling with connection every 10 feet 6 inches
- **b.** vertical chases line each side of the building spine
- **c.** every other lab bench is movable
- **d.** all of the above

6. How did the Smithsonian Lab use passive controls in its hot, humid climate?
- **a.** they recycled air-conditioning
- **b.** they worked at night
- **c.** they used overhangs and raised the building off the ground
- **d.** they made it airtight to keep hot air out

7. The Smithsonian Lab roof combines active and passive systems to do all except which?
- **a.** produce electricity
- **b.** provide heat
- **c.** provide natural light
- **d.** reduce heating loads

8. Which is described as Building Integrated Photovoltaics?
- **a.** photovoltaic panels are screwed to the roof covering
- **b.** photovoltaic panels form the watertight roof
- **c.** photovoltaics are added to the roof covering
- **d.** photovoltaics are substituted for clear glass panels

9. Why is one-directional testing done for earthquake research?
- **a.** to measure cause and effect
- **b.** to prove the concept
- **c.** to simulate a full-building response
- **d.** to reduce the overall experiment time

10. Why was a research lab created to test the performance of wood-frame structures?
- **a.** because the damage to wood-frame construction from earthquakes was staggering
- **b.** because most earthquake testing focuses on concrete and steel
- **c.** to better understand the weak points of wood-frame structures
- **d.** all of these, and to mitigate damage in a building

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Digital Architect

Participatory design with the Internet

By Jonathan Cohen, AIA

The Internet is maturing, and as it does, so too are the ways that architects use it. In the mid and late 1990s, firms scrambled to set up Web sites and e-mail systems for their practices. Since then, architects have come to rely heavily on the Internet to communicate with clients near and far, to thumb through virtual product catalogs, to present their projects to the general public, and to perform myriad other tasks, including the very one envisioned by the Internet's pioneers: building virtual communities.

In these days of far-flung project teams and interested parties spanning the gamut from clients to community activists, gaining consent on projects as they move forward could mean the difference between a lukewarm and an enthusiastic reception. For many practitioners, the Web is proving to be an excellent platform for communication of this sort. Architects and planners say that providing Web sites that solicit comments on proposed projects has enabled them to create interested communities where none existed before. "More and more, citizens expect to have a say in public and private investment decisions that impact the public domain," observes Berkeley-based urban designer Bruce Race, FAIA.

California-based Jonathan Cohen, AIA, is chair of the AIA Technology in Architectural Practice advisory group.

For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at **www.architecturalrecord.com**.

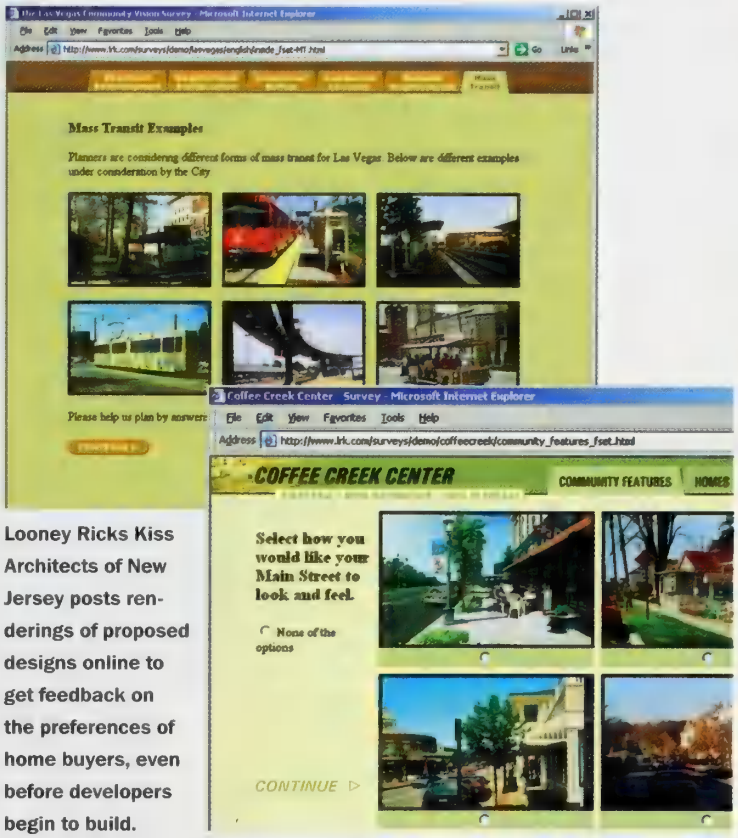
A university weighs in online

Projects for colleges and universities tend be particularly stakeholder-driven, with faculty, students, administrators, alumni, and highly articulate neighbors who are more than willing to make their opinions known. In such cases, the Web is indispensible for consolidating disparate and numerous opinions. In 1999, Simon Ruffle, an architect and researcher with the Martin Centre at the Cambridge University department of architecture in England, worked with colleagues Michael Trinder and the Martin Centre's director Paul Richens to develop a Web-based bulletin board for collecting comments on the design of a new computer-science building. The impetus for creating it came from the faculty at Cambridge, who were loath to attend meetings but insisted on having a way to communicate with the architect.

Once the Web site went live, vigorous debate ensued over everything from bicycle parking to energy-efficiency. Researchers noted that the "finger plan" organization for the building proposed by the architects made circulation among the various labs difficult and suggested a courtyard plan instead. They also thought the private offices were too narrow, at 6.5 feet by 16.5 feet. A computer room originally located along a sunny southern facade was moved to the north to avoid problems with heat buildup.

The success of that experiment persuaded university administrators to take on a more ambitious project: creating an information and consultation Web portal for Cambridge's entire $750 million capital building program, comprising 60 projects spread across four areas of the campus. In developing the portal, Ruffle's first task was to evaluate other participatory Web sites for large-scale urban planning projects. The best sites, he found, had common characteristics: punchy, colorful graphics for conveying broad-stroke planning principles; links to related information, such as transportation and development plans, and local planning agencies and advocacy groups; and tools for interacting with the public, including a systematic method for authenticating and recording public comments.

The Cambridge University site went live in July 2000 and serves about 10,000 pages of content per month. Ruffle used relatively low-tech media for the site, including isometric views constructed by combining CAD files, photographs, and line drawings. He also devised a procedure for converting layered CAD drawings to simple image files viewable in a Web browser without plug-ins; visitors can turn layers of the images on or off to see how the elements of the campus's master plan will be put in place over time. Interactive panoramas of the campus, along with roof-mounted Web cameras, add a sense of presence and immediacy for the online viewer.



Looney Ricks Kiss Architects of New Jersey posts renderings of proposed designs online to get feedback on the preferences of home buyers, even before developers begin to build.

Creating a custom portal

San Francisco–based McCall Design Group's bread-and-butter work is high-end retail and hotel interiors for national chains, and they needed a Web-based tool for

IMAGES: COURTESY LOONEY RICKS KISS

Digital Architect



A Web site at Cambridge University in England provides the community with interactive access to detailed information about the campus's master plan and building activities.

communicating with their far-flung clients and consultants. After trying several subscription-based extranet solutions, which they found sluggish and feature-bloated, they turned to a free management portal software package called open-source Zope, which runs on both Windows-based and Macintosh computers, as well as the Linux operating system. Senior vice president John Chan, AIA, said he "couldn't believe how powerful it could be—and it's free." He customized Zope to create a design portal that centralizes all project communications, including an issue tracker, management and markup of drawings and sketches, and other functions.

Chan says you have to be "a little bit geeky" to develop such a system in-house, but once completed, it runs at no cost and shares the same server (and some of its content) with the firm's external Web site. Most importantly, the Zope-based portal preserves the firm's image and brand with its distinctive aesthetic. Compared to other extranet solutions, Chan says their homegrown system "allows us to control our own destiny."

What look do you like?

James Constantine, an urban planner and principal with Looney Ricks Kiss (LRK) of Princeton, New Jersey, uses the Web to conduct visual preference surveys for communities as diverse as Las Vegas and Denton, Texas. Building on the pioneering participatory design work of Anton Nelessen, who devised a system for citizens to choose between paired images of urban scenes, these surveys let residents indicate preferences for streetscape and open-space design, and even architectural style. In an intriguing synergy between the firm's planning and architecture practices, LRK leveraged the same technology to assist its housing-developer clients to identify style and feature preferences of potential home buyers, even before preliminary design begins. Such online "focus groups" have provided valuable insight into location-specific market demands. Constantine says, "We're able to find out what kind of [environmentally friendly] features people are willing to pay for, for example, and what kind of trade-offs they're willing to make."

Taking the pulse of the public

Uncertainty about public reaction to proposed projects is a major risk for developers, but the Web has been a promising vehicle for increasing the transparency and efficacy of public consultation in such matters. A truly interactive Web site can help build trust among stakeholders and offers developers a way to anticipate community objections early in the design process.

One such planning tool is Neighborhood America, founded by veteran land-use attorney Kim Kobza. This Web-based system integrates the internal communications of the project team on a development proposal with the public process of stakeholder consultation. As an active participant in many a heated late-night public hearing about proposed development, Kobza was often witness to chaotic planning processes that left developers, activists, and planning agencies equally frustrated. "I knew there had to be a better way to manage communication at a public level," he says.

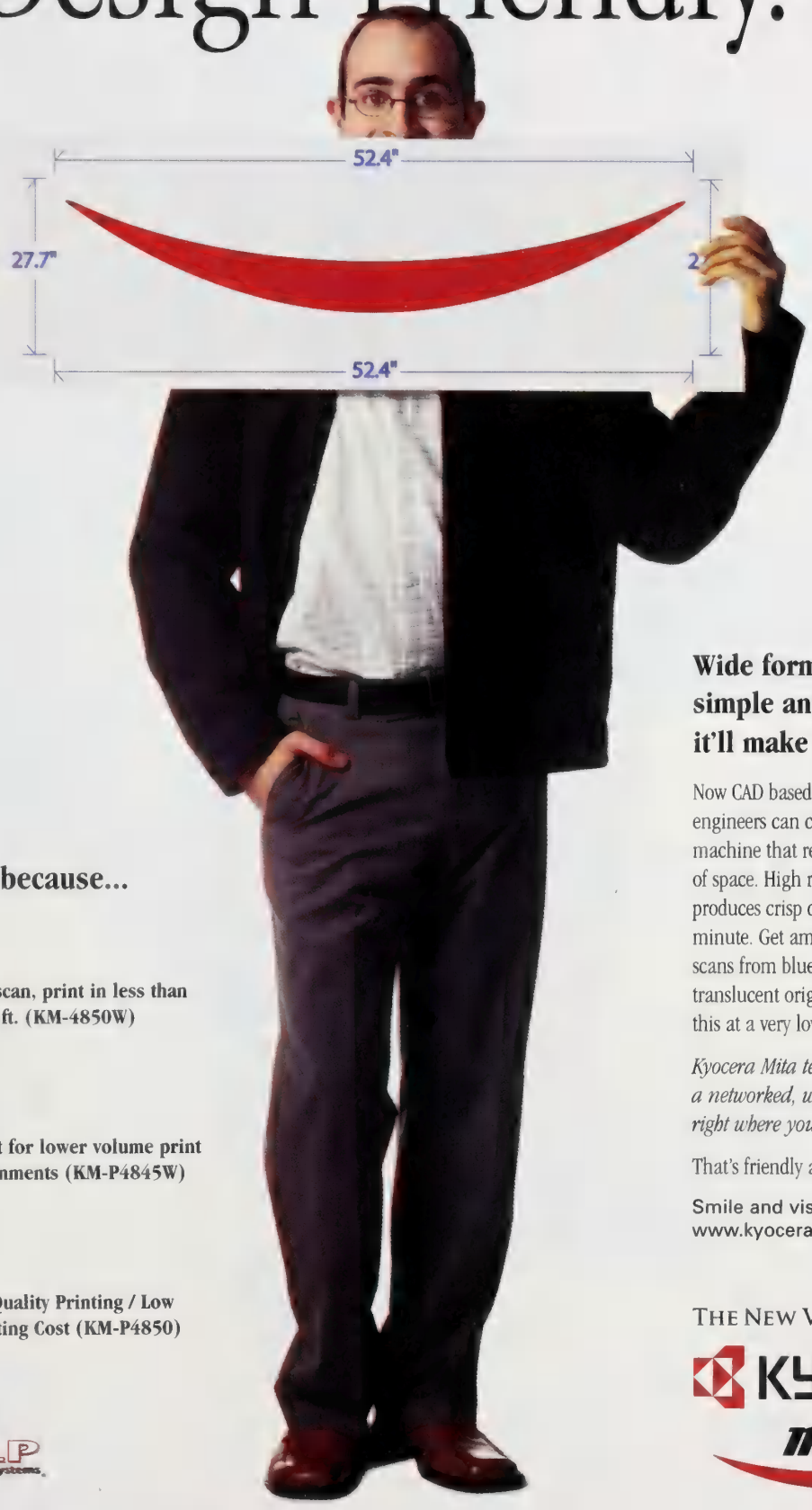
Neighborhood America provides the Web infrastructure for groups such as Imagine New York, an advocacy effort of the Municipal Art Society to engage the public in sharing ideas and visions for rebuilding Lower Manhattan following 9/11. The Web site records the history of this once-in-a-lifetime process and has become an online gallery for comments and sketches from thousands of participants. When workshops for public comment on nine proposed designs were held in January 2003, about 300 people attended the live sessions at St. John's University, but more than 6,000 others participated and gave feedback through the Web site. Comments and images are fed to a database that can be sorted and viewed online.

Information is power

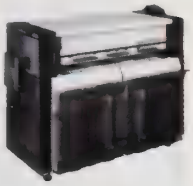
The Web's ability to offer access to planning tools such as geographic information systems (GIS) and virtual-reality techniques offers a tantalizing vision of an informed and democratic urban-planning process. In England, the Slaithwaite virtual decision-making system, a project of the University of Leeds School of Geography, gave residents of this West Yorkshire village the chance to access and interact with a wide array of social, physical, and environmental information mapped to the familiar terrain of their neighborhood. Users can zoom and pan the colorful maps, ask questions about specific buildings, and then leave comments for the planners.

Like CAD, GIS works with layers called "themes"—data sets that are tagged with information about geographic components, such as census tracts, neighborhood association boundaries, or property-tax assessments. One of the most ambitious online GIS projects is Neighborhood Knowledge California, a project of UCLA's Advanced Policy Institute. Users can map an area by drawing its boundaries online and can even upload their own data into NKCA's mapping system, as when a Koreatown parents group entered the location of child-care facilities in that Los Angeles neighborhood and could see where such facilities were lacking. Tools like this help small businesses and underserved communities bridge the digital divide—one of the highest hopes of Internet visionaries. Professor and NKCA director Neal Richman says, "I'm excited about using this technology to share information, and therefore share power." ■

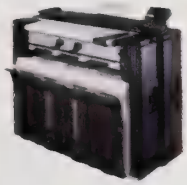
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Hillcrest Baptist Church. Pensacola, FL. Architect: Danny Grundhoefer — Quina, Grundhoefer, Royal Architects. Photo by Chris J. Roberts.



La Cascada II. Phoenix, AZ. Architects: Todd & Associates. Photo by Richard Abrams Photography.

PORTLAND CEMENT ASSOCIATION PRESENTS

Masonry Mortars: Developing a Quality Assurance Program

Planning produces beautiful structures that last for generations

By Jennifer Grover Prokopy

Modern Masonry Means More Choices

Masonry is the material of choice for many architects when it comes to building an enduring public image. With masonry units and mortars available in a variety of shapes and a rainbow of colors, architects are limited only by their imaginations. The strength and security offered by modern masonry are attractive to developers of civic structures, creating schools and institutions that are fire-resistant and protect occupants from extreme weather and natural disasters. Solid mass and sound absorption properties make masonry an attractive material for building libraries, museums, theaters and auditoriums. Masonry's aesthetic beauty, longevity and low maintenance make it ideal for nearly any building.

The variety of masonry options means architects must choose their materials wisely, from mortar mix and color to masonry unit shape, size and design. Some of these decisions are made during the specification phase, and others are made in the field during construction. Along with the artistic expression afforded by the wide variety of masonry choices comes the responsibility to address materials, systems, construction requirements and quality assurance.

This continuing education unit will show you how to make informed decisions about masonry mortars. We begin by offering some background on mortars and their properties, and then address the necessary steps in developing a quality assurance program that will ensure your masonry projects are successful. We also examine the role of quality control in the construction process, and clear up some common misconceptions about ASTM testing.

Properties of Masonry Mortars

Masonry mortars perform more than just the obvious function of joining masonry units to form a lasting structure. They create tight seals between the units to protect against air and moisture entry; bond with any steel reinforcement, ties or anchor bolts; provide a desirable aesthetic quality through color contrasts or shadow lines; and compensate for size variations in the masonry units.

CONTINUING EDUCATION

Use the learning objectives below to focus study as you read **Masonry Mortars: Developing a Quality Assurance Program.**

To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 165, then follow the reporting instructions on page 214 or go to the Continuing Education section on *archrecord.construction.com* and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- *Possess an increased knowledge of the properties and uses of various types of masonry mortars.*
- *Recognize the prescribed standards used to measure the quality and performance of masonry mortars.*
- *Use your new knowledge to develop a masonry mortar quality assurance program that can be applied to your future projects.*

Masonry mortars are comprised of three key ingredients: one or more cementitious materials; clean, well-graded masonry sand; and sufficient water to produce a plastic, workable mixture. Until the late 19th century, lime was the primary cementitious material used. Sand-lime mortars took months or years to harden, but were acceptable for the massive projects and slow-paced construction schedules of those times. Mortars began to evolve with the addition of a small amount of portland cement to "sweeten" the lime; by the later 19th century, lime was being used to "sweeten" the portland cement, creating a mortar that hardened faster and stronger.

Today, the most common cementitious materials used to make masonry mortar are:

- Masonry cement
- Mortar cement
- Portland cement and lime

Masonry cement is a factory-prepared hydraulic cement. It enhances properties like board life, workability, water retention, and durability. White and colored masonry cements are widely available, and provide a full palette for architects. Compared to portland cement and lime, masonry cements simplify jobsite production of mortar because the cementitious materials are preblended into a single product.

For more demanding structural applications and in high seismic areas, project planners sometimes specify mortar cement. Like masonry cement, mortar cement is a factory-prepared hydraulic cement, but it is the only masonry material with ASTM-specified bond performance criteria.

No matter what cementitious material is chosen—masonry cement, mortar cement, portland cement and lime, or combinations of portland cement with masonry cement or mortar cement—acceptable results are easily achievable, allowing applicable specifications to be met when appropriate design procedures are followed. Under the proportion specification of ASTM C270, the cementitious material is blended with damp, loose mortar sand at a ratio of 1 to between 2 1/4 and 3 parts (see Table 1).

Desirable Mortar Properties

To ensure good workmanship and proper structural performance of a building, masonry mortars must embody a variety of properties:

Workability. Experienced masons agree that workability is perhaps the most important property of masonry mortar. Mortar should spread easily, cling to vertical surfaces, extrude readily from joints, remain workable for sufficient time, and permit easy positioning of masonry units without subsequent shifting.

	PARTS BY VOLUME				
Mortar Type	Portland Cement or Blended Cement	Masonry Cement or Mortar Cement Type			Hydrated Lime or Lime Putty	Aggregate
		M	S	N		
M	1	—	—	1	—	4 1/2 – 6
	—	1	—	—	—	2 1/4 – 3
	1	—	—	—	1/4	2 13/16 – 3 3/4
S	1/2	—	—	1	—	3 3/8 – 4 1/2
	—	—	1	—	—	2 1/4 – 3
	1	—	—	—	Over 1/4 – 1/2	*
N	—	—	—	1	—	2 1/4 – 3
	1	—	—	—	Over 1/2 – 1 1/4	*
O	—	—	—	1	—	2 1/4 – 3
	1	—	—	—	Over 1 1/4 – 2 1/2	*

Table 1. Proportion Specification for Mortar**

* *The total aggregate shall be equal to not less than 2 1/4 and not more than 3 times the sum of the volumes of the cement and lime used.*

** *Adapted from ASTM C270.*

Notes: 1. Under ASTM C270, Standard Specification for Mortar for Unit Masonry, aggregate is measured in a damp, loose condition and 1 cu ft of masonry sand by damp, loose volume is considered equal to 80 lb of dry sand (in SI units 1 cu m of damp, loose sand is considered equal to 1280 kg of dry sand). 2. Mortar should not contain more than one air-entraining material.

Location	Building Segment	MORTAR TYPE	
		Recommended	Alternative
Exterior, above grade	Load-bearing walls	N	S or M
	Non-load-bearing walls	O**	N or S
	Parapet walls	N	S
Exterior, at or below grade	Foundation walls, retaining walls, manholes, sewers, pavements, walks, and patios	S†	M or N†
Interior	Load-bearing walls	N	S or M
	Non-load-bearing partitions	O	N

Table 2. Guide for the Selection of Masonry Mortars (United States)*

* *Adapted from ASTM C270. This table does not provide for specialized mortar uses, such as chimney, reinforced masonry, and acid-resistant mortars.*

** *Type O mortar is recommended for use where the masonry is unlikely to be frozen when saturated or unlikely to be subjected to high winds or other significant lateral loads. Type N or S mortar should be used in other cases.*

† *Masonry exposed to weather in a nominally horizontal surface is extremely vulnerable to weathering. Mortar for such masonry should be selected with due caution.*

Board life. This is the amount of time that freshly mixed mortar retains its desired workability. Board life should be acceptable in both hot and cold weather.

Water retention. Mortar with good water retention not only resists rapid loss of mixing water, but also is more workable and remains so for a longer period of time. Poor retention often results in rapid stiffening, making weather-tight joints nearly impossible to achieve.

Absorption. The less absorbent the hardened mortar is, the more able it is to resist chemical attack, freeze-thaw damage, and staining.

Consistent rate of hardening. Rapid hardening makes masonry placement more difficult; slow hardening can impede the overall work progress. A consistent rate of hardening not only allows the mason to work at an optimal pace, but also contributes to greater color consistency.

Durability. A good mortar joint will stand up well to repeated exposure to adverse conditions over the long term, including freeze-thaw cycles or aggressive chemical environments.

Compressive strength. The type and quantity of cementitious material plays a large role in determining compressive strength of mortar. Compressive strength increases with an increase in cement content, and decreases with an increase in air entrainment, lime or water. However, higher compressive strength does not necessarily improve the overall performance of the mortar.

Permeability. Related primarily to workmanship and design, permeability is kept to a minimum through care in construction, including proper tooling techniques.

Bond. Measured by *extent* (degree of contact between mortar and masonry units) and *strength* (the amount of force required to separate units), bond quality is influenced by a number of factors, most importantly workmanship.

Volume change. All masonry mortars experience very small amounts of drying shrinkage as they harden. Good mortar design minimizes shrinkage. Control joints are used to reduce cracking caused by drying shrinkage.

Appearance. The overall appearance of a masonry structure is affected by uniformity of color and shade of mortar joints. Careful measurement of materials, thorough mixing, and proper tooling of joints ensures uniform mortar color.

Choose Your Mortar

The four mortar types—M, S, N and O—are designed to perform optimally in a variety of construction situations. As a general rule, Type N mortar is used for above-grade exterior walls under normal loads, and for interior load-bearing and nonload-bearing walls. Type S is recommended for exterior work at or below grade, specifically on foundation walls, retaining walls, manholes, sewers, pavements, walks and patios. Types S and M are recommended for masonry under heavy loads (such as seismic loads)

or exposed to severe saturated freezing. Type O is applicable for some repointing applications. Building codes may contain restrictions on mortar types for different applications.

Use governing standards—ASTM C270 or CSA Standard A179—to specify the mortar that will best fit your application. Indiscriminate use of high-strength mortar (Type M) should be avoided; lower-strength mortar such as Type N will bring its own advantages in many cases. As a rule of thumb, use Type N unless there is a structural, mortar-unit compatibility or other reason to consider the use of a higher- or lower-strength mortar.

Developing a Quality Assurance Program for Masonry Mortar

A comprehensive quality assurance (QA) program prescribes policies and requirements that ensure a project's success for the architect, building team, and owner. While most project contracts clearly spell out strategies for QA, strategies for specific narrowscope components such as masonry mortar are often ill-defined or excluded. In situations where a large number of organizations and products are involved in a single project, the importance of individual components like mortar can be overlooked—with detrimental results—if a QA program is not spelled out explicitly.

When developing a QA program for masonry mortar, expectations of the owner (both explicit and implicit), as well as general project parameters, including the structure's function, environment, budget constraints and life-cycle considerations, must be taken into account. The establishment of general quality objectives at the outset of project development is the foundation for sound QA for the overall project and individual components.

Preconstruction Planning

Effective building teams count on a good flow of communication. Architects and other specifiers should play an active role in the planning process. Preconstruction planning should include a full review of all plans by the mason contractor, who will submit any changes or corrections in writing to the appropriate member of the building team. Later in the process will come submittals and mockups, which confirm the correct choice of materials and the capability of the mason to produce the desired quality and aesthetics. Finally, scheduling should take into account all components of each phase of construction, and any schedule changes should be communicated throughout the project.

Key Components of a QA Program

While QA programs are unique from project to project, there are a number of essential elements common to all successful QA efforts. Some of the key elements are typically presented in the general provisions of contract documents, while others—especially those specific to masonry mortar—must be defined explicitly.

As part of any QA program, quality policies set forth minimum standards for all materials in the project. Administrative responsibilities and procedures are established to ensure a smooth flow of information, and records retention procedures keep stored information consistent and easy to manage and locate. Procedures are established for identifying and implementing corrective action as part of quality control.

Getting Specific: QA and Masonry Mortars

In a QA program that monitors use of masonry mortars, procedures for review and approval of submittals must be established.

Submittals (and their subsequent approval) ensure that the specifier's requirements are met regarding construction materials and procedures. Mortar submittals should confirm that mortar contains the specified materials, is of the proper mortar type, and conforms to project-specific requirements like color, climate considerations, etc. Each project will require a different level of documentation, testing and sampling. In general, letters from the manufacturer certifying materials, and from the contractor pledging to proportion the materials as specified, are sufficient.

Also key to masonry-specific QA is the establishment of quality control requirements for masonry mortars, as well as responsibility for evaluation of test and inspection reports. (More information on testing is included later in this unit.)

Quality Control as Part of a Quality Assurance Program

While QA is the overall process that helps ensure a successful project, quality control (QC) is a valuable component of that process, one that compares the quality of work with established standards and dictates appropriate action. There are four key components of QC: inspection, testing, evaluation and corrective action.

A "closed loop" approach forms the basis for effective QC. In a closed loop approach, accountability and reporting ensure that every time a project component is inspected or tested, the results are evaluated and, if necessary, corrective action is taken. Plans are modified and the resulting changes in the construction process are carried out, once again evaluating the results to determine if further action is necessary. The same is true for the construction process itself: the QC continues, with communication about each inspected or tested component traveling in a loop until the evaluated results are acceptable.

Inspection

As the saying goes, "don't expect what you don't inspect." This applies directly to masonry inspections, which are governed by the *Building Code Requirements for Masonry* (ACI 530/ASCE-5/TMS 402). The Code requires different levels of minimum inspection depending on the building use and design procedures. Any agency providing testing and inspection services must be accredited under ASTM C1093, the *Standard Practice for Accreditation of Testing Agencies for Unit Masonry.*

Inspections of volume proportion in masonry mortars provide instant results, so contractors can make changes to the mix on-site and avoid costly problems down the road. An inspector should monitor the proportions of sand to the cementitious material, whether it is mortar cement, masonry cement or a portland cement-lime mixture. Water monitoring will be supervised by the mason, who will adjust water levels to produce the desired level of workability. It is neither necessary nor desirable to limit water content of mortars by specification or inspection as with concrete. A more flowable mortar with higher water content typically provides improved bond and performance over a stiffer mortar with lower water content (made with the same materials). Inspectors also should be familiar with hot and cold weather requirements for masonry.

Testing

Masonry mortar QA programs require testing to perform two functions: to qualify mortar materials, and to perform quality control of mortar. Understanding the difference between these two functions, and the variety of tests performed to achieve each function, will reduce mistakes commonly made in the field.

Qualification of masonry mortar materials must be established prior to construction. Two different aproaches are allowed by the *Standard Specification for Mortar for Unit Masonry* (ASTM C270). One qualifies the materials under property specifications; the other qualifies the materials under proportion specifications. If the property specification method is not chosen, the proportion specification method applies.

For field QC of mortar, inspection is typically the most timely and effective quality control procedure. Observation of batching and mixing procedures provides real time information and immediate corrective action. Requiring use of a volumetric measuring device can improve accuracy of sand proportioning. If desired, field testing as outlined by the *Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry* (ASTM C780) can be used. Some of the prescribed tests measure properties of plastic mortar, but the most effective and reliable tests measure the aggregate ratio and water content of mixed mortar, providing an accurate evaluation of site-proportioned mortar materials.

Misconceptions about the appropriate use and value of ASTM C270 and ASTM C780 cause the most common errors in field testing of mortars, as explained below in greater detail.

Evaluation and Corrective Action

Following the "closed loop" QC process, each inspection and test report should be evaluated, and appropriate (sometimes corrective) action should be taken. Even when results indicate that no corrective action is needed, the reports should be filed according to records retention policies outlined in the QA program.

Corrective action will not always mean a change in materials or procedures; it may at times mean the original criteria is incorrect, and the standards of measurement or the testing procedures must be changed. Working with the building team from the outset of a project, and keeping lines of communication open in all directions, will help reduce situations where major changes are needed.

ASTM Specifications: Their Role in a QA Program and in Quality Control Procedures

Clearly, testing is an important part of quality assurance, and of quality control measures performed on-site during construction. Some common misconceptions about field testing include designating an incorrect test to be performed, or improperly executing a correctly specified test. Properly conducted field testing must be preceded by the correct specifications and preparations, and care should be taken to perform the most appropriate test.

ASTM C270: Standard Specification for Mortar for Unit Masonry

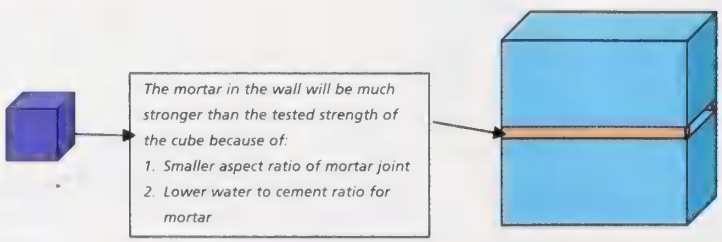
Architects and other specifiers must be familiar with ASTM C270, *Standard Specification for Mortar for Unit Masonry*, the standard that governs masonry mortars. The specification addresses mortars for reinforced and non-reinforced unit masonry structures, and covers the four mortar types: M, S, N and O. (For more information on choosing a mortar type, see Table 2 on page 198.) The specification sets out acceptance criteria for mortars, whether they are mixed using masonry cement, mortar cement, or a portland cement-lime combination.

The standard also addresses two methods of specifying mortars, proportion or property specification requirements. Specifiers must choose one or the other method, never both. If neither is chosen, the proportion specifications apply. If proportion specification requirements are used, no mortar tests are required. The mortar must consist of a mixture of materials meeting proportion specifications outlined in ASTM C270 (see Table 1 on page 198).

If property specifications are used, mortar compressive strength testing (as well as testing of other properties) will be performed to determine whether the laboratory-prepared mortar meets the compressive strength as outlined in ASTM C270. The mortar is mixed and tested under laboratory conditions with specific mixing procedures, dry sand, exact water proportions, and ideal curing conditions to determine whether the "recipe" that will be used for the field mortar has all the required properties (see Additional Required Reading).

ASTM C780: Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry

A second standard that architects and other specifiers should be familiar with is ASTM C780, *Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry*. The standard provides test methods to ensure that the field mortar meets the recipe that was either selected from ASTM C270 proportion specifications, or determined in the laboratory to conform with ASTM C270 property specifications.



Contrary to popular belief, mortar cube test results do not equal in-place mortar strengths.



Masonry is often the sensible choice for schools, offering versatility, performance, affordability and easy maintenance—not to mention sytle. At North Whidbey Middle School in Oak Harbor, Wash., sunlight plays off the school exterior, enhancing its rich colors. Architects: DLR Group. Photo by Chris J. Roberts.

Preconstruction evaluation of mortars establishes expected test values for site-produced mortars. Construction-site testing for QC provides a means of evaluating the mortar's conformance with specified proportions or proportions established by laboratory property specifications. When construction-site testing is desired, specifiers should use ASTM C780.

Recommended Test Methods

The recommended test methods for field quality control are outlined in ASTM C780: the mortar aggregate ratio test (Annex A4) and the mortar water content test (Annex A5). The mortar aggregate ratio test provides a means to "identify, measure, evaluate, and control differences which may be expected to exist between laboratory and jobsite mortars." When used together, the two tests provide a powerful QC measure of field mortars, providing an accurate comparison to preconstruction laboratory proportions.

Avoid the Most Common Testing Mistake

One of the most common mistakes made is to test the compressive strength of field mortars (defined by ASTM C780) as a quality control measure and expect conformance with the property requirements set forth in ASTM C270. This is done even though ASTM C780 clearly dictates against the practice:

> This test method [compression testing] establishes testing procedures for determining compressive strength of preconstruction and construction [field] mortars. Strength values for mortars obtained through these testing procedures are not required, nor expected, to meet strength requirements of laboratory specification C270 mortars.

A number of conditions cause compressive strength of field mortar to differ from compressive strength measured in the laboratory under ASTM C270 specifications.

First, mortar mixed in the field will not contain the same amount of water as the laboratory specimen; standard practices (and ASTM specifications) allow masons to adjust water levels on-site to achieve optimum workability. A variety of situations, including environmental conditions that vary from lab to site and from day to day, can result in a difference in water level large enough to skew test results. Second, these environmental (weather) differences can affect the compressive strength of test specimens. Third, the sizes and proportions of test specimens vary greatly from mortar joints in the field, making a fair comparison difficult. Finally, laboratory specimens also include mechanical effects that lower their perceived compressive strength. These factors combine to make it nearly impossible to achieve accurate compressive strength comparisons from field to lab.

Conclusion

Solid testing procedures are an essential part of quality control, and good quality control procedures are a critical part of quality assurance. Use the tools offered in this unit to assist in creating a quality assurance program for mortars. ■

Resources and Technical Assistance

The Portland Cement Association offers a wide variety of resources on masonry mortars, including case studies, technical reviews, specification guides—even personal consultation. For more resources or technical assistance with masonry mortars, contact PCA at 847.966.6200 or visit www.cement.org/masonry.

Click for Additional Required Reading

As part of this learning activity, you are required to read additional materials. To access the material online, go to ***archrecord.construction.com/resources/conteduc/.*** To obtain a faxed copy, contact PCA's masonry team at 847.966.6200.

LEARNING OBJECTIVES

- *Possess an increased knowledge of the properties and uses of various types of masonry mortars.*
- *Recognize the prescribed standards used to measure the quality and performance of masonry mortars.*
- *Use your new knowledge to develop a masonry mortar quality assurance program that can be applied to your future projects.*

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 214. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website—*archrecord.construction.com*—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

Q: 1. Cementitious materials for masonry do not include:

A: a. masonry cement
b. portland cement and lime
c. mortar cement
d. plastic cement

Q: 2. Bond performance criteria is included in the standard specification for which of the following cementitious materials:

A: a. masonry cement
b. portland cement and lime
c. mortar cement
d. plastic cement

Q: 3. Usually, after a mortar has hardened it will:

A: a. grow in volume
b. experience a slight shrinkage
c. stay exactly the same size
d. shrink first, then expand

Q: 4. Which of the following item(s) have little or no impact on mortar color:

A: a. careful measurement of materials and thorough mixing
b. color of cement and sand
c. compressive strength and permeability
d. tooling at like degrees of setting

Q: 5. Type N mortar can be made from which cementitious material(s):

A: a. only portland cement and lime
b. only masonry cement
c. only mortar cement
d. any of the above

Q: 6. Under ASTM C270, Standard Specification for Mortar for Unit Masonry, mortars are specified by the following approach(es):

A: a. only the property specification is allowed by this standard
b. only the proportion specification is allowed by this standard
c. the property and performance specification must be used together
d. either the property or performance specification can be used, but not both

Q: 7. The least effective quality control procedure for masonry mortars on the job is to conduct:

A: a. mortar aggregate-ratio tests
b. inspection of batching procedures
c. compressive strength tests
d. all of the above are equally effective

Q: 8. ASTM C270, Standard Specification for Mortar for Unit Masonry, should not be used:

A: a. to prepare for construction prior to starting the project
b. in the lab
c. for compressive strength testing
d. during construction to test mortars at the job site (field QC)

Q: 9. Proportion specifications in ASTM C270, Standard Specification for Mortar for Unit Masonry, do not provide the following:

A: a. limits for how much cementitious material to use by volume
b. limits for how much cementitious material to use by weight
c. appropriate cementitious material or combinations thereof to use for each mortar type
d. limits for how much aggregate to use

Q: 10. Choose the one true statement that shows why the compressive strength of lab-mixed mortar (the "recipe") should not be compared with compressive strength of jobsite mortar:

A: a. the two mortars have the exact same water content
b. lab test specimens and joints are the same size and shape
c. lab-mixed mortar will not have the same strength as mortar on the job
d. curing conditions are the same

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Philip Johnson's Glass House. Photograph © Richard Payne, FAIA

ANDERSEN WINDOWS PRESENTS

Architects' Widening View of Windows: Technical Advances Elevate the Role of Fenestration

"The history of architecture is the history of the struggle for the window," Le Corbusier, the master of modernism, said in 1929. If Le Corbusier were alive today, he would find that struggle rages on, with the design and performance of the contemporary window reaching far beyond his imagination. Now instead of considering a window as an opening in a wall for light or ventilation or view, an architect is driven to consider the use of glazing as a defining factor in building design and performance. It's a much more daunting and complicated task — but ultimately a more challenging and rewarding one.

A recent exhibition entitled "Picture This" at the National Building Museum in Washington, D.C., put it this way: "Windows now go well beyond being simple devices that let in light and air. Today they function as integral components of complex building envelopes, selectively filtering aspects of the larger environment. As manufacturers have developed new technologies to improve visibility, security, and comfort, windows have become elements of sophisticated systems that control light, ventilation, moisture, dust, sound, and even infrared and ultraviolet light."

Most architects are familiar with the state-of-the-art contemporary window. What needs to be pondered is that no other building component has had such a significant impact on design — exterior form, perception of space, relation to exterior space, building performance, exterior and interior detail. The most obvious may be appearance. "The shape, character, and construction of the window have an enormous effect not only on how our buildings work and how it is to live in them, but also how they look," said Howard Decker, curator at the National Building Museum. "Technological development has been a very significant factor in the 20th century dialogue between the window and architecture and now we can make a window look like anything. The question is: what should a window look like?"

Manufacturers today offer architects more options for window design than ever before to address what a window may look like as well as what it can do — infinite degrees of transparency, dozens of framing and opening choices, insulating alternatives, and security features. Thermally, windows compete with insulated walls in terms of the ability to reduce heating and cooling loads. So, in essence, the window has been dissolved into the wall and visa versa.

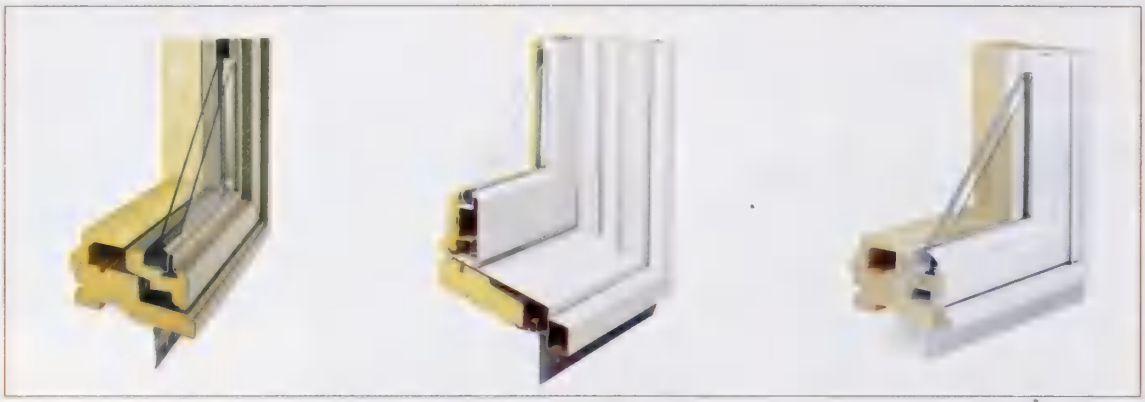
CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **Architects' Widening View of Windows: Technical Advances Elevate the Role of Fenestration.** To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 171, then follow the reporting instructions on page 216 or go to the Continuing Education section on *archrecord.construction.com* and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- *Trace the evolution of windows and design and how our culture is shaped and reflected by the use and design of windows.*
- *Understand the importance of taking a holistic approach to fenestration design to consider the historical, social, and cultural context.*
- *Understand how technological advancements redefine what is possible in design and integration of the window components.*



Window cross-sections show today's advanced window technology and design. (Left — right) Vinyl clad-wood casement window provides all-weather protection and energy efficiency; double-hung window features wood interior/composite material exterior for beauty, design and performance; new impact-resistant, energy-efficient glass provides comfort and protection in harsh conditions.

This new high-performance contribution of the window isn't a given, however, but must be integrated with the total building performance. Climate, site, building orientation, glazing area, and location are considered extremely important. In other words, only a holistic approach to building design promotes energy efficiency. The fenestration design must also consider HVAC system type and efficiency, utility type and rates, internal loads, window area and orientation, and shading. Determining realistic building performance values requires use of valid performance values of window assemblies for modeling studies. The emphasis on performance-based design, as well as appropriate material and manufacturing processes, may ultimately promote the realities of sustainable architecture.

But back to window technology. To understand where we are, it's important to see where we've come from and how rapidly technology has progressed, particularly in the 20th century. It's also intriguing to try to sort out the chicken-and-egg question about social needs and technology — do our needs push technological development or does technology often precede our mass cultural yearnings? The glass and window industry offers some fascinating insights into social and cultural as well as architectural history.

Manufacturing Glass, First

Since the earth was formed, glass has been made naturally — by high-temperature conditions cooling and solidifying rapidly, like volcanic eruptions, lightning strikes, or the impact of meteorites. Stone-age man used cutting tools of natural glass called obsidian. Glass was first "discovered" by Phoenician merchants around 5000 B.C. While transporting stones of nitrate, the merchants rested cooking pots upon the stones, which eventually mixed with sand on the beach and formed an opaque liquid. The earliest man-made nontransparent glass fragments date back to the 16 century BC and were found in Mesopotamia. A major breakthrough in glassmaking was the discovery of glassblowing some time between 27 BC and AD 14, attributed to Syrian craftsmen.

The Ancient Romans were the first to use glass for architectural purposes, with the discovery of clear glass (through the introduction of manganese oxide) in Alexandria about AD 100. Although of poor quality, cast glass windows appeared in the most important buildings in Rome and the luxury villas of Herculaneum and Pompeii. With the decline of the Roman Empire, progress in the field of glassmaking techniques slowed, however, without any major improvements made until the Middle Ages.

In the 11th century, Germany produced the first glass sheets by a technique that was further developed in the 13th century by Venetian craftsmen. By blowing a hollow glass sphere and swinging it vertically, gravity would pull the glass into a cylindrical "pod." While still hot, the ends of the pod were cut off and the resulting cylinder cut lengthways and laid flat. Panes of sheet glass, known as crown glass, would be joined with lead strips and pieced together to create windows. At that time glazing was a great luxury, mostly reserved for palaces and churches. Most buildings had small windows and dark and dank interiors. It was more typical for the openings to be shuttered and covered with oil and paper. Large-scale production of sheet glass — enough to bring the development of the manufactured windows industry — didn't occur until the mid 1700s, and even then only the wealthy could afford them.

Innovative Glassmaking Techniques

The Industrial Revolution came and in the span of just two centuries window technology traveled through light years, so to speak, with major implications for architecture. The production of flat glass by breaking and spinning a blown globe gave way to the glass cylinder, blown by using compressed air, which could be slit lengthwise, reheated, and allowed to flatten on an iron table under its own weight. Although the natural fire finish was destroyed on one surface the final product, still far from being truly flat, was flatter than crown glass. Output increased dramatically. By mid 1800s the world was astonished by the design of the Crystal Palace in London, made with 300,000 sheets of cylinder-blown glass set on a lightweight iron framework, a building that is often considered a precursor of the modern movement.

Fundamental to the great increase in glass output was the introduction of the regenerative furnace. Higher temperatures sped up melting times. The conversion of the old siege floor into a vast tank into which the materials directly flowed allowed the continuous production of molten glass. Windows and window frames were still crafted by hand, but with increased glass production, they became available to a much broader segment of the population.

The late 1800s marked a time of rapid change in domestic architectural styles — some regionally based, some revivalist styles borrowed from Europe, and others more esoteric American inventions. It's fair to say, however, that the window was not a major determining influence in the design of a house. Whether articulated in the language of Beaux Arts, Queen Ann, Tudor, or Craftsman, punched openings in the masonry or timber-framed facades provided minimal visual exposure or ventilation from exterior to the inside and were primarily part of the artistic language. In certain areas, there was a tendency to employ regionally appropriate designs, tall windows that encourages natural ventilation in the south (the French Colonial) and thick walls of adobe, flat roofs, and minor window fenestration in the southwest (the Spanish Colonial) to protect from the intense sun.

Window fenestration on commercial buildings followed that of residential structures, with relatively small punched holes conforming to the overall stylistic architectural expression. Windows were operable, providing natural ventilation and often set deep in the façade and separated by thick piers, a style which characterizes Richardsonian buildings of that era. In the mid to late 19th century, commercial buildings with cast-iron facades presaged curtain-wall construction, and also much of the theory of skyscraper design. While still containing separate window units, these facades whet the appetite for a continuous glassy surface.

Curtain-wall construction, however, wasn't possible until after 1905, when a Belgian named Fourcault managed to vertically draw a continuous sheet of glass of a consistent width from the tank. Commercial production of sheet glass using this method commenced in 1914. Colburn refined this process, with the support of Libbey-Owens in 1917. The Pittsburgh Plate Glass Company (now PPG) updated the process's main features and it was used from 1928 until the company changed to the float glass manufacturing process decades later.

In 1909, the world saw the first example of steel mullioned, strip-windows and uninterrupted steel spandrel façade in the Boley Building in Kansas City. Designed by Louis S. Curtiss, its walls were enclosed by continuous bands of glass, accented slightly by glazed doors, above painted steel spandrel strips. One other remarkably advanced buildings of its time still stands in San Francisco as a monument to the use of boldly scaled glass. The seven-story Hallidie Building (1917-1918), designed by Willis Polk, is all glass with the exception of four fanciful bands of superimposed cast-iron decoration and fire escapes.

The vanguard of the International Style was emboldened by these advances in window technology. Ludwig Mies van der Rohe, Philip Johnson, Richard Neutra, and others gained prominence in their commercial work by using great expanses of glass to announce that a building's structure no longer needed to be displayed in the building's exterior facade. Then they seized the opportunity to test their modernist theories at the residential scale, creating three-dimensional tributes to the invention of plate glass. In 1938, Richard Neutra designed the "windshield" house for a wealthy family on Fishers Island, New York. Huge sheets of plate glass in metal frames gave the owners sweeping panoramic views.

The Modernist aesthetic of immense slick glass architectural surfaces could filter into the public domain most rapidly with new technology. It was the float process developed after the Second World War by Britain's Pilkington Brothers Ltd. and introduced in 1959 that combined the brilliant finish of sheet glass with the optical qualities of plate glass. Molten glass, when poured across the surface of a bath of molten tin, spreads and flattens before being drawn horizontally in a continuous ribbon into the annealing lehr. The post-war residential building boom brought a newfound consumer interest in the "picture window." Homeowners not only liked the modern style, but also the views and daylight the large windows afforded.

The Hermetically Sealed Building

It's hard to talk in generalities, yet trends can be identified in mid to late 20th century growth: suburbanization, increased density, conformity and standardization of design for middle-class home, glassy and tightly sealed boxes for offices and business. The picture window and the great sheets of plate glass in residential, commercial, and public buildings provided fabulous views and daylight but closed up the buildings to natural ventilation. Advances in heating, air conditioning and ventilation systems followed, ironically leading to the loss of design skill in the use of windows for daylight and ventilation. The technological advances produced a "higher standard of living," but in the process the building occupant's relationship with the natural environment was cut off. The building became a machine for living, but the interior and exterior spaces were isolated one from the other. Again, we're talking cultural attitudes here, in the 1950s and 1960s, when energy sources were plentiful and cheap. Environmental issues revolving around the orientation, size, and shape of windows in a building in relationship to its site and climate sunk deep in many architect's consciousness. The environmental behavior of windows was recognized and studied, but not as an urgent priority.

Then came the energy crises of the 1970s when prices skyrocketed. The net cost of a window unit was, in effect, increased because its performance in many designs added to the operating expense of the building. Architects and engineers responded and energy-conscious design gained momentum. Of interest were innovative schemes for day lighting, solar heating and shading in buildings, natural ventilation, and active energy-generating systems such as photovoltaics. Percolation of these design theories into the construction industry, however, proved an ambitious task. When energy prices evened out, smooth skinned glass and steel boxes without operable windows or external sunshades and endless housing tracts developed without regard to site and climate once again became economical and passive solar solutions were nearly abandoned. Only now, with renewed emphasis on sustainable architecture are some of these theories once again seeing the light of day. Yet, the seeds of a different design method were planted. Even the federal government got involved, and in the 1980s promoted the Building Energy Performance Standards, which promoted a performance-based evaluation of a building's design rather than a prescriptive basis.

At the same time, manufacturers of building components remained concerned with environmental issues, anticipating further world energy resource complications in the future. Window manufacturers offered product solutions. "Thirty years ago, windows were the weakest link in the wall or in the building in terms of thermal energy," says Steve Selkowitz, of Lawrence Berkeley Laboratories, a government agency that has long studied energy use in buildings. "The idea was don't use them or make them as small as possible."

Advances came quickly — single-glazed; double-glazed; triple-glazed; gas-filled insulating glass; quantified heat gain and loss, through conduction as well as infiltration and solar heat gain, using advanced modeling of building performance.

"Now," Selkowitz says, "windows compete with insulated walls in terms of reducing heat and cooling loads."

High performance today is dependent on the entire window assembly, not just the glazing. Since frame and sash materials account for 10 to 30 percent of the total window area, materials have a significant effect on overall performance. Window frames have evolved dramatically from the lead strips that held panes in primitive wood frames. Now they are generally made of wood, vinyl, aluminum, and composites. Materials are now being combined to increase weathering capability, improve structural performance, and reduce maintenance. The material choice has significant performance implications as well as a dramatic impact on the fenestration aesthetic.

A lot of guesswork has been removed from window design and specification in areas of the country vulnerable to extreme forces of nature. Coastal states have been hammered in recent years by more extensive and severe damage from hurricanes and tropical storms, prompting local governments and insurance companies to require protection in the form of shutters, screens, or impact-resistant glazing and frames. After Hurricane Andrew pounded Southern Florida in 1992, the state implemented stringent codes, requiring many new homes within varying proximity to the coast to have impact-resistant window systems. In response, manufacturers have developed a broad portfolio of products with impact-resistant laminated glazing and components to withstand higher design pressures. Social and cultural security concerns also demand sensitive design solutions to physical security requirements. Manufacturers are responding with window systems to withstand varying levels of physical force.



PICTURE THIS: Windows on the American Home

THE NATIONAL BUILDING MUSEUM
WASHINGTON, D.C.

Picture This: Windows on the American Home explores 200 years of the cultural, aesthetic, and technical accomplishments of windows at the National Building Museum in Washington, D.C. (through August 11th). This exceptionally informative, yet accessible, exhibition was conceived and sponsored by Andersen Corporation in celebration of its 100th anniversary.

Picture This explores several themes, each of which elucidates the defining role windows have played in the design and culture of the American home. History meets theory, and invention meets critique, in a robust multimedia presentation — including film and video clips, models, photographs, advertisements, historic artifacts, and a lucid and graphic timeline. The exhibition examines the extent to which technological invention has determined architectural form — before the Industrial Revolution made the dependence transparent — has not often been analyzed outside of academia without being arcane.

For more information contact The National Building Museum www.nbm.org or The Minnesota History Center www.mnhs.org.



The Environmental Experiment Center (EEC) at the Science Museum of Minnesota in St. Paul followed a sustainable-design strategy and incorporates integrated energy-conserving technologies.



Clerestory windows help provide balanced day lighting. Environmental Experiment Center (EEC) at the Science Museum of Minnesota in St. Paul.

At the same time, window design aesthetics remain a critical part of the package. "The windows are not an eyesore," says Steven Winter, architect and director of Steven Winter Associates. "Not a necessary evil. They are something we use for their technical performance as well as their psychological and visual performance...." In fact, Winter refers to decorative windows as "jewelry."

Can the window industry go further? Yes, says Winter, but it's a cost issue. "It used to be that double-glazing was an expensive option. Then it used to be that low-e coatings were luxury options. More and more I see the expensive higher-performance options becoming part of the mainstream. I think that will continue. These days, triple and quadruple glazing is that expensive option. Thermal breaks at the perimeter of glass are an expensive option. They will become the norm."

Selkowitz goes a step further. "Windows are going to be better than the walls that house them. And then that becomes the end of the cycle. The window is no longer the poor cousin, but the rich cousin in the relationship between the fenestration and the opaque part of the wall."

The Search for Sustainability

As architects search for sustainability in design, it demands a clear understanding of the basic principles of energy conservation. Designers must consider the appropriate use of glazing for the specific environmental challenges of each climate, site, and building design program. Appropriate material selection and sensitive manufacturing processes are considered in product selection. The iterative design process challenges the balance of design aesthetic, building form, window system, opaque envelope, internal loads, building operation, and climate to work in harmony with minimal impact on the environment.

The tenets of sustainable architecture are to integrate environmental technology, resource conservation, and aesthetic design. The ultimate goal, says James Wines in his book *Green Architecture* will be that a work of architecture "cannot be removed from a particular location without sacrificing its essential meaning.... Environmental thinking means that walls, facades, interior spaces, and the general materiality of a building — outside of their obvious contributions to architectural function — can be seen as much more than physical components in the manipulation of form and space. They become vehicles for the absorption and communication of contextual information. Within this revised perspective, the new environmentalism is as much a social and psychological condition as it is par of an ecological initiative."

It's probable that in the near future, windows will be generating energy for the building in which they are placed. These architectural components will be part of a larger conceptual framework of intelligent buildings. Efforts in this direction are already surfacing.

For the Environmental Experiment Center (EEC) at the Science Museum of Minnesota in St. Paul, the client requested a sustainable-design strategy based on many factors, not the least of which was fenestration. Located a short distance from the Mississippi River, the design is an excellent example of an integrated design methodology. Minneapolis-based Barbour/LaDouceur Design Group bundled several energy-conserving technologies with the careful selection of environmentally friendly products to make the center a model of sustainability.

The client wanted a building "that produced more electricity than it used." Barbour/LaDouceur enlisted the help of "energy allies" — experts in different areas of energy efficiency. The allies include a major Minnesota window manufacturer and The Weidt Group, a Minnesota-based consulting firm that provides sustainable-design assistance for high-performance buildings. "We believe this building had the potential to actually generate more energy than it required throughout the course of a year," explains Kurt Gough, project architect. The team produced a working model of sustainability, which addressed issues of site, heating and cooling, day lighting and ventilation.

Photovoltaics (PV) on the south-facing roof and a ground-source heat pump system both contribute to reduce the annual energy consumption by 60 percent of code requirements. Double-hung windows balance conduction, solar loss and gain, and day lighting. Photo-sensors dim lights when natural light is available. In addition to the smart use of advanced technology, manually operated windows proved to be an excellent way to control indoor air quality.

Principal Janis LaDouceur explains the critical role that the windows played in the design of the 1,000-square-foot facility. "Operable windows connect people to the outside and encourage sensitivity of the environment," she says. "Double-hung windows where both sash operate are the best. Air flows in and out of the rooms and through the top and bottom of the units."

This design also invites inspection. It causes the visitor to stop and consider how the building is put together. For the center, the architects, working with a manufacturer, took custom window design far beyond the task of typical specifying. The majority of the window frames and sash are made of a proprietary product — a composite material of pine fibers saved from milling operations and a thermoplastic polymer. In a creative move, the architects also clad the ceiling within the building and the deck surrounding it with the same material. The result is a consistency of finish and material that further integrates interior and exterior space.

This leads back to our original question: What should a window look like? The word window itself derives from "wind-holes," as early openings in buildings served primarily to supply draft, and emit smoke, from eternal fires. Metaphorically, the word windows represent ways to see the world. Television sets have been compared to windows, and we all are familiar with the popular computer program carrying that name. We anticipate a certain type of window in our home and at the office, for view, light, and, at least in the domestic setting, ventilation.

The design discussion needs to be expanded to include doors and roof windows as well as the traditional window. Merging technologies allow glass and other building components to perform multiple functions. Universal design principles suggest improved ways to interact with the glazed openings and the definition of the window evolves with our culture.

The challenge to contemporary designers of the built environment is to question the status quo and seek a greater interpretation of this ubiquitous architectural element. New construction and renovation each have unique challenges and opportunities for creativity, to define or recognize the design potential in the fenestration system. The window can continue to play a leading role in a dramatically changed architectural vocabulary, recognizing social, cultural, aesthetic, and environmental design determinants in their own right. ■

Click for Additional Required Reading

As part of this learning activity, you are required to read additional materials. To access the material online, go to ***archrecord.construction.com/resources/conteduc/***. To request a faxed copy of the material, contact Robert J. Saxler, AIA at 651-264-5110 or email bsaxler@andersencorp.com.

LEARNING OBJECTIVES

- *Trace the evolution of windows and design and how our culture is shaped and reflected by the use and design of windows.*
- *Understand the importance of taking a holistic approach to fenestration design to consider the historical, social, and cultural context.*
- *Understand how technological advancements redefine what is possible in design and integration of the window components.*

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 216. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self report form on *Record's* website — *archrecord.construction.com* — to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

Q: 1. Who designed the "Windshield" House on Fishers Island, New York in 1938?
A: a. Ludwig Mies van der Rohe
b. Philip Johnson
c. Richard Neutra

Q: 2. Curtain-wall construction was not possible until who was able to vertically draw a continuous sheet of glass of a consistent width?
A: a. Fourcault
b. Curtiss
c. Libby-Owens

Q: 3. The modern style of the "picture-window" was popularized with the production of glass using:
A: a. Double glazing
b. Crown glass
c. The float process

Q: 4. When did the federal government promote the Building Energy Performance Standards?
A: a. 1960's
b. 1970's
c. 1980's
d. 1990's

Q: 5. High performance is dependent on the entire window assembly, not just the glazing.
A: a. True
b. False

Q: 6. Which feature at the Environmental Experiment Center in Minnesota balance conduction, solar loss and gain, and day lighting?
A: a. Photovoltaics (PV)
b. Double-hung windows
c. Photo-sensors in the light fixtures
d. Operable windows

Q: 7. The frame and sash account for how much of the total window area?
A: a. 5 to 15 percent
b. 15 to 25 percent
c. 10 to 30 percent

Q: 8. Early man used cutting tools made of a natural glass called:
A: a. Quartz
b. Manganese oxide
c. Obsidian

Q: 9. The early discovery of glass blowing is attributed to the:
A: a. Phoenicians
b. Syrians
c. Venetians

Q: 10. At the Environmental Experiment Center in Minnesota, which feature in addition to a ground-source heat system, contributes to reducing the annual energy consumption by 60% of code requirements?
A: a. Photovoltaics (PV)
b. Double-Hung Windows
c. Photo-sensors in the light fixtures
d. Operable windows

About Andersen Windows

Andersen Windows is a wholly owned subsidiary of Andersen Corporation. Andersen Corporation, the world's largest manufacturer of wood windows, patio doors, and storm doors, celebrates its 100th anniversary in 2003. The company is privately owned and has a strong history of commitment to its business partners, employees, community and environmental stewardship.

Andersen introduced the nation's first factory-produced window frames 100 years ago. In the ensuing years, the company has built one of the strongest brands in the window and door industry known for its superior performance, reliability, and integrity.

Located along the St. Croix River in Bayport, Minn. since 1913, Andersen was founded in 1903 across the river in Hudson, Wis., by Danish immigrant Hans Andersen and his family, who named the new business Andersen Lumber Company. The name was changed to Andersen Corporation in 1937. In 1904, the company began mass-producing window frames in standardized sizes on an assembly line, nine years ahead of Henry Ford's similar system for automobiles.

Andersen has grown to be an international enterprise employing more than 8,000 people in 32 locations across the country. The company's ability to design and manufacture windows and doors quickly and to turn houses into homes has earned Andersen a worldwide reputation as the window of choice among homeowners.

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Lighting

Designers with an interdisciplinary approach embrace lighting as a linchpin of dynamic interiors

BRIEFS

The winner of the Radiance Award from the International Association of Lighting Designers in May was the lighting of the Massachusetts Institute of Technology Building 7 renovation by lighting designers Steven Rosen and Kathy Abernathy, with architect EYP. The installation led a roster of 16 award-winning projects. For details and photos of all the winners, go to www.iald.org.

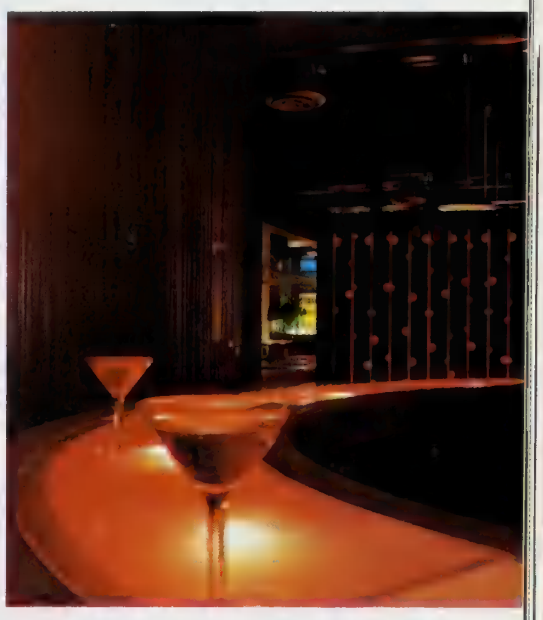
In recognition of the growing importance of sustainable design within the profession of architectural lighting, in 2004 the IALD will institute its first awards for sustainability, in addition to bestowing honors in seven categories. The entry deadline for the 21st annual awards competition is December 1, 2003.

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Designer Charoonkit "Kit" Thahong has built a career shuttling between the virtual and architectural worlds. After training in industrial design in his native Thailand, he worked as a graphic designer for advertising and packaging clients in Bangkok. In 1997, he emigrated to the U.S. to attend graduate school at Parsons School of Design in New York City, where his studies in environmental design took a turn toward multimedia graphics at the height of the Internet boom. In 1999, Thahong joined digital powerhouse R/GA as a programmer, where he continues to develop Web sites for clients, including Ericsson and Nike.

Thahong's passion for the cuisine of his Thai culture and his background in multiple design disciplines, landed him the assignment to create Spice, a restaurant on Manhattan's Upper East Side, several years ago. From its logo to lighting, the restaurant reflected Thahong's top-to-bottom approach to integrated design. Recently, Thahong also made the leap to the entrepreneurial side of the restaurant business, as the owner—and designer—of the Manhattan eatery United Noodles.



The landscape of light that Thahong created for the restaurant SEA in Williamsburg, Brooklyn (right), employs zones of colored illumination to define the cavernous space. A fan of "reclaimed" fixtures, he punctuated the restaurant with offbeat luminaires that include a retro, swing-arm lamp that once held sway in a hospital operating room.

The two-year-old London firm Jump Studios brings together a team with similarly diverse backgrounds. Employees who have worked as graphic, furniture, and industrial designers join colleagues who have tackled projects at leading architectural firms, including Michael Hopkins. Complemented by a sister branch in Brescia, Italy, the studio has completed projects as diverse as interiors and lighting for a London hair salon and new packaging for an ice cream brand. For Nike's London headquarters, the team used industrial resin and sports-rubber surfaces to evoke the client's technological approach to its own product design. For the lighting effects and fixture profiles it was seeking, the studio worked with a major lighting manufacturer to customize fixtures already in its line. Such tweaking of lighting as an essential element of interior architecture helped the Jump Studios think—and leap—outside the box. *William Weathersby, Jr.*

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gamma

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Incandescent		E3



omega

Ceramic Metal Halide	CMH T4.5	CMH PAR20	CMH PAR30 Long
Incandescent	PAR20	PAR30 Short	PAR30 Long



sportster

Ceramic Metal Halide		CMH PAR20		CMH PAR30 Long	
Incandescent	PAR16 GU10	PAR20	PAR30 Short	PAR30 Long	PAR38



spot

Ceramic Metal Halide		CMH
Incandescent	PAR20	PAR30 Short

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Creative Uses

A Canadian architect explores perception with an installation called *Artificial Light*

Lighting, perception, and architectural transparency are special areas of investigation for Montreal architect Hal Ingberg. Recently, he was the latest of 12 young architects who have been invited by the Canadian Centre for Architecture in Montreal to create an installation exploring current ideas in architecture by entering into a dialogue with the interior of the center's historic



Shaughnessy House. Ingberg's installation, *Artificial Light*, which was presented from October 2002 through June 2003, was a work of conceptual simplicity and destabilizing perceptual effect.

Artificial Light built upon Ingberg's longstanding research into the nature of material and spatial seamlessness, and his interest in the perceptual potential of glass. It explored how the surfaces of floors, walls, and ceilings can be dematerialized by an orchestrated play of space, electric light, and colored, semireflective glass surfaces.

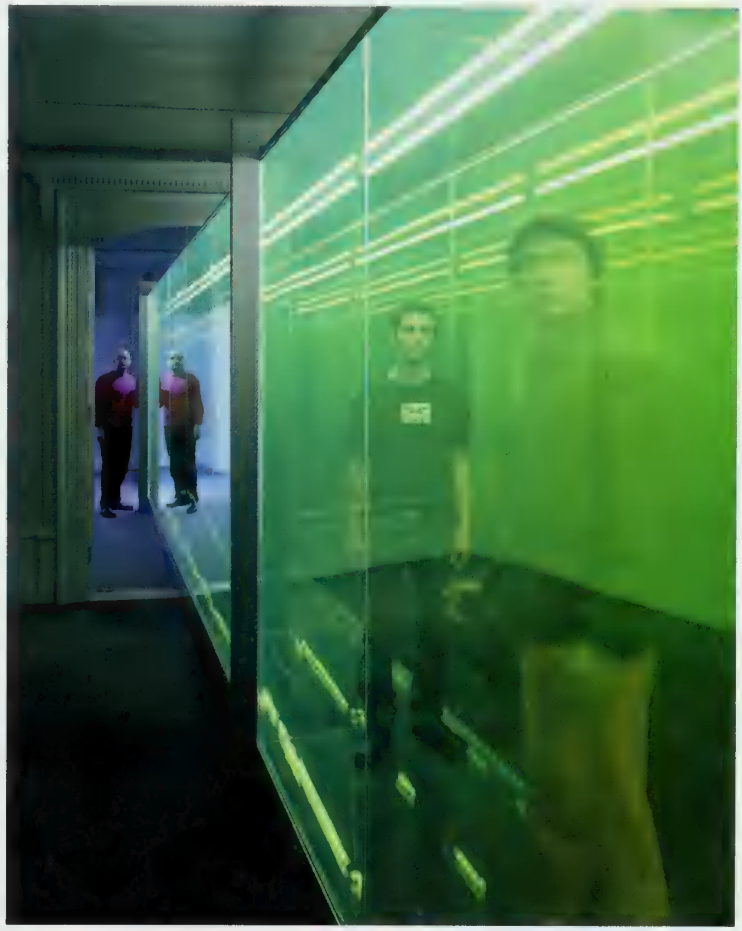
Set amid the traditional architectural details of the center's spaces, Ingberg's work presented a 48-foot-long tunnel constructed of yellow-green reflective glass on all sides. Measuring approximately 6 feet tall by 3 feet wide and running through two doorways of three adjacent rooms, the enclosed tunnel invited patrons to pass through and around it as changes in lighting altered their perception of the enclosure and its surroundings.

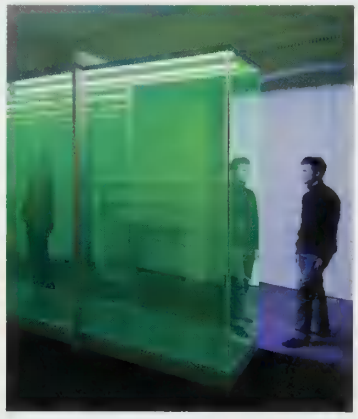
The juxtaposition of the glass installation, which was lit from inside by exposed linear fluorescents, and the darkened rooms within which it sat established dual optical impressions when viewed from outside the glass tunnel. At times, the installation appeared to glow like a lantern. The apparent thickness or opacity of the semireflective glass as experienced within the enclosure appeared to have perceptually metamorphosed into a thin, diaphanous membrane once viewers passed outside it.

For the installation, Ingberg specified six 4,100K fluorescent lamps with programmed electronic ballasts along the overhead glass surface. The ballasts were visually separated from the lamps by placing them above the glass ceiling inside custom aluminum cases. The ballast cases then connected to a 1.5-inch-diameter aluminum electrical wire way, which ran the length of the tunnel and then connected to a single ceiling outlet via discreet wiring. "The intention was for the lamps themselves to have a sculptural quality, emitting a bright white light," Ingberg says. The fluorescents gave the yellow-green glass an otherworldly glow.

The lighting was placed on timers. Every 2 minutes, the lighting within the tunnel was turned off for 20 seconds and the standard lighting outside the tunnel in the gallery space was turned on.

Like a house of mirrors, the installation created a social spectacle. Patrons within the tunnel became unwitting performers for those standing in the darkened space outside. When the lighting within the tunnel was turned off, the roles were reversed.





The site-specific installation incorporated six linear fluorescents within a glass tunnel traversing the gallery.

"The installation explored the nature of enclosure and the experience of feeling inside or out—and how quickly that can change," Inberg says. "It was about manipulating the narrative quality of architecture."

The *Artificial Light* design assistants were Bechara Helal and Nabi Neda for computer drawings and Jean-Pascal Beaudoin for graphics and translations. The project was funded by a grant from the Council of Arts and Letters of Quebec, with sponsors including Viterie April, Solutia, Vitreco, Visionwall, and Novus. Lighting sources included Sylvania, Leviton, and Advance Transformer. *William Weathersby, Jr.*

PHOTOGRAPHY: © MICHEL LEGENDRE/CANADIAN CENTRE FOR ARCHITECTURE

Jump Studios scores for **Nike** with a London office and showroom equipped with customized lighting

By Leanne B. French

From Nike's humble beginnings in Portland, Oregon—when founder and C.E.O. Phil Knight sold sneakers out of the back of his truck—sprang a global culture that promotes the "just do it" lifestyle everywhere. The marketing machine that propelled the brand continues to expand its reach, with international offices, including a dynamic new headquarters and showroom in London. Looking inward to express its own corporate culture, Nike has taken a quieter approach here than in the design of its Niketown shopping destinations. But like Nike's iconic "swoosh" logo, the location embodies the brand ethos in design abstractions that speak volumes.

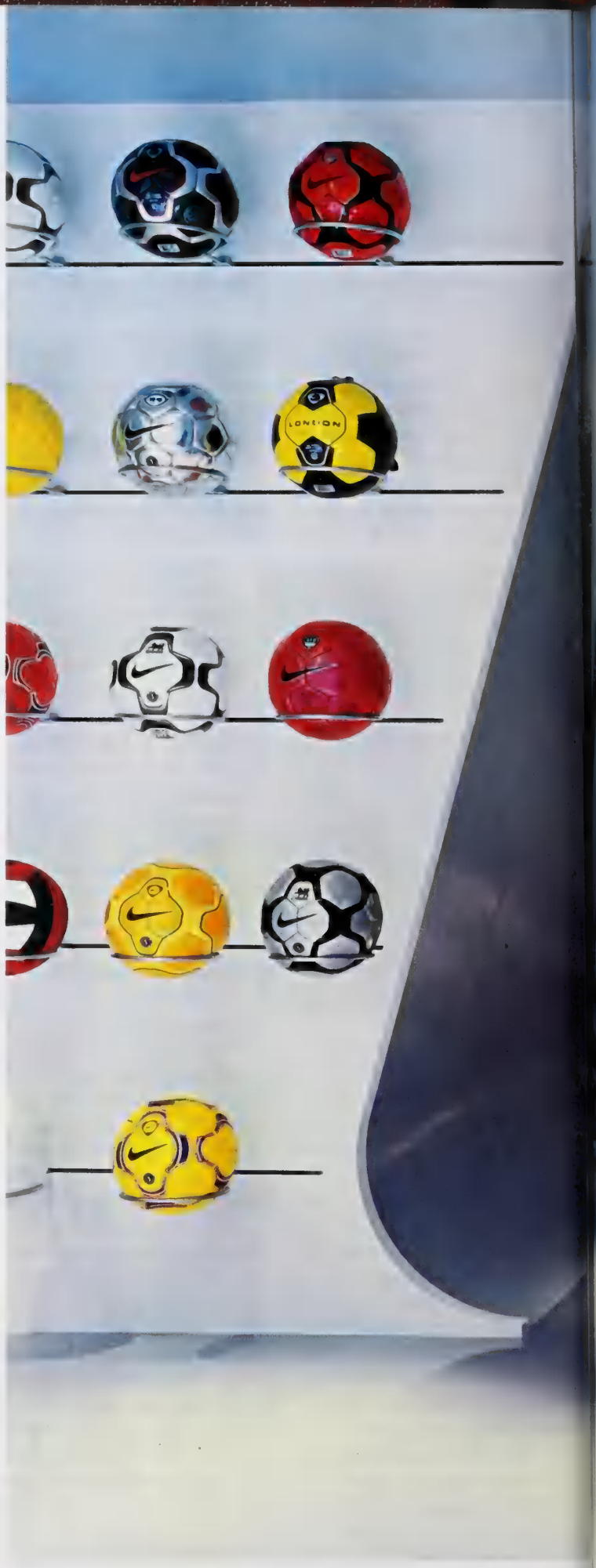
Centrally situated off London's famed Carnaby Street just behind Oxford Circus, the new offices occupy three levels of a typical five-story Soho building. Nike U.K. marketing director Rod Connor drafted the two-year-old design firm Jump Studios to envision a work environment where the company could develop new products, market footwear and clothing lines to buyers, and court sport stars to jump aboard its endorsement bandwagon. Although Nike originally called for an open-plan space, the design firm quickly realized the company's collaborative work style and mobile culture required a variation on that theme.

"The London employees are based in the office, but they also travel throughout Europe and the United States," says Shaun Fernandes, a Jump director. "They use it as a centralized hub for meetings. Internally, there are frequent informal brainstorming sessions. We devised a modified open plan into which we dropped more private offices and meeting spaces to define zones and accommodate the way the staff works."

The entry is purposefully unassuming until visitors cross the threshold into a reception area designed for maximum impact. High-gloss industrial resin flooring and lacquered walls in gradations of blue create a volumetric perspective and offer a high-tech counterpoint to soft leather seating.

Customized lighting complements materials and forms to support the staff's esprit de corps. In the reception area, ceiling-recessed linear fluorescents alternate in length to create a sense of movement, "like lines blurring past on a highway," explains Fernandes.

The designers collaborated with a lighting manufacturer and



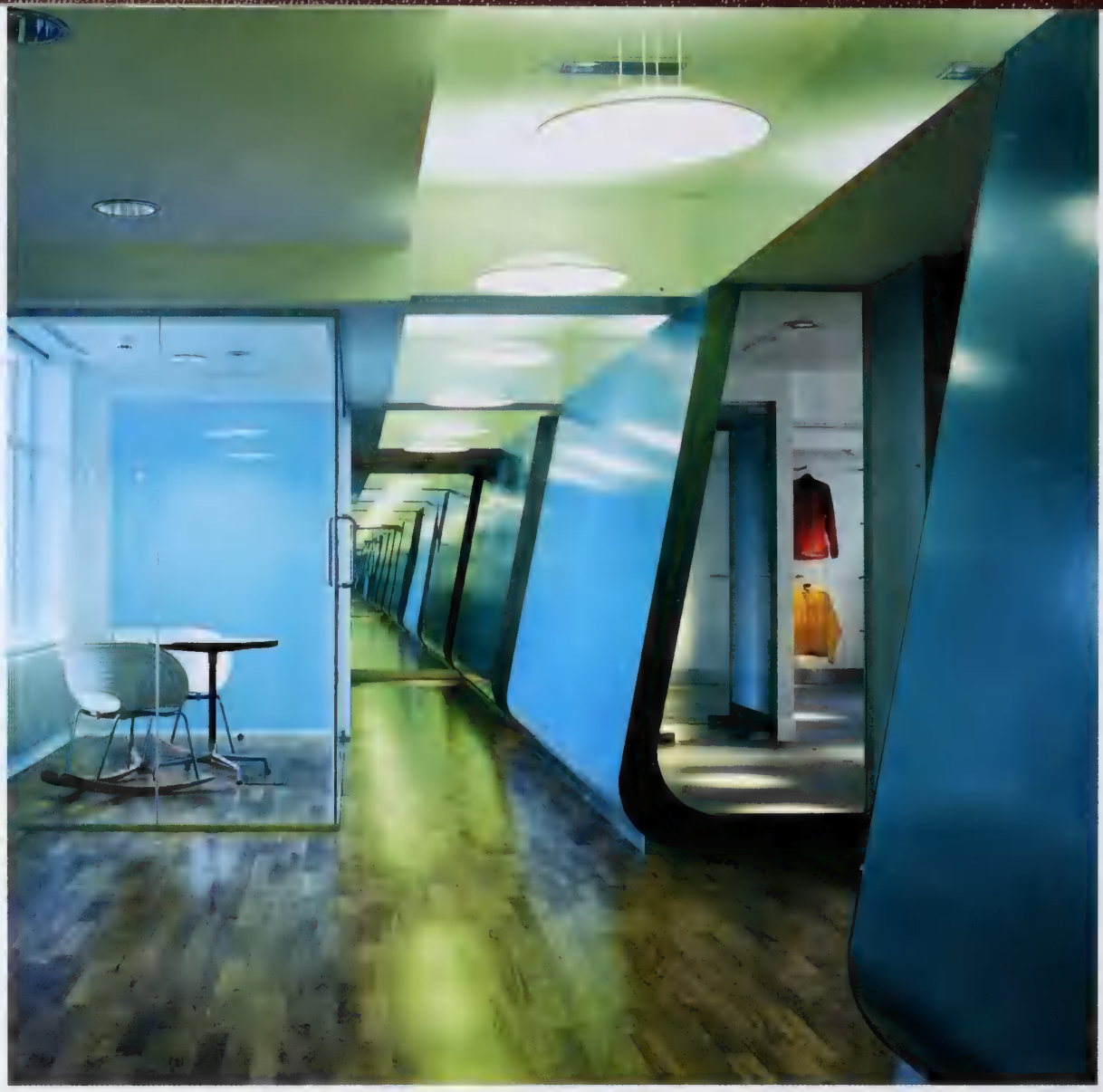
PHOTOGRAPHY: © MARK YORK

Leanne B. French is a freelance writer and editor based in New York City. She is a frequent contributor to the RECORD *lighting section.*

Project: *Nike Showroom, London*
Architect, lighting designer: *Jump Studios—Shaun Fernandes, Sean Pearson, Sarah Williams, project team*
Electrical engineer, contractor: *Peak Projects*



A zinc-coated steel-cage wall provides an introduction to showrooms, which are illuminated by automated dichroic halogens.



Showroom and office enclosures abstractly evoke the curves of the Nike "swoosh" logo (left). Staggered linear fluorescents and graphics create a sense of movement (below). The office and showroom circulation routes are illuminated by custom pendants (left and bottom).

local dealer to customize fixtures for different work environments. Round pendants and ceiling-mounted fixtures illuminate circulation areas, while workspaces are lit with suspended task lights.

Surrounded by windows, the loftlike offices receive abundant daylight, a quality the architects mimicked by mixing light levels to maintain a seamless feeling in the space when daylight wanes. From the warmly lit workspaces featuring basketball-court-style wood flooring, thematic blue walls lead into podlike meeting rooms in configurations ranging from informal huddle spaces to café-type areas and conference rooms, all wired for mobile technology. Furniture ranges from custom pieces to classics like Eames chairs. Backlit wall-length transparencies of Nike's star athletes, such as Tiger Woods and Michael Jordan, are integrated into the envelope to create graphic impact and visual privacy.

A wall-length, zinc-coated steel cage is a striking preview for the product showrooms. Part display shelf, part interactive art piece, the cage can be adapted to coincide with recent Nike promotions and advertising. Displays frequently change within the showrooms, so a lighting system anchored by automated, low-voltage halogens supports flexibility. Lighting puts the final sheen on this high-gloss take on the Nike brand. ■





Sources

Custom lighting: *Artemide*

Dimmers, audiovisual: *Newland Electronics*

For more information on this project, go to Projects at **www.architecturalrecord.com**.

design with light

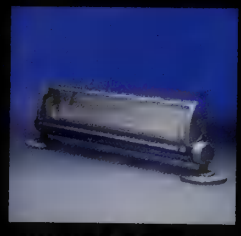


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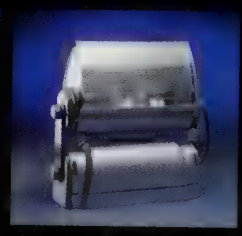
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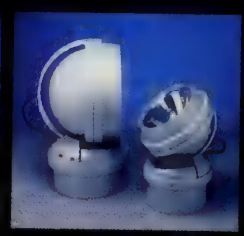
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After 160 years, the **Hungerford Bridge** in London gains new life as an illuminated pedestrian crossing

By Leanne B. French

In the 1840s, London engineer Isambard Kingdom Brunel had the inspired idea to connect the north and south banks of the Thames with a pedestrian suspension bridge. Brunel was ahead of his time; his bridge was an engineering marvel but was underused by the public, in part because sewage in the river at the time made the promenade less than appealing. Two decades later, the structure was dismantled and replaced by a railway bridge that led to Charing Cross Station, which had supplanted the old Hungerford Market. Later the railway was widened, eliminating one of the bridge's two parallel walkways. For the balance of the 20th century, a single narrow, congested bridge path was the only direct pedestrian connection between the banks here.

As part of London's Millennium Project, the Hungerford Bridge was recently resuscitated with a redesign by the architecture firm Lifschutz Davidson. Spectacular illumination by Speirs and Major Associates restores the luster of the structure's role as a pedestrian route, creating a tourist loop that helps to connect sites, including Trafalgar Square, Big Ben, and Covent Garden.

The millennial reconstruction consists of two new suspension footbridges that echo Brunel's original design and are attached to the sides of the existing, utilitarian railway bridge. An arresting procession of tilted white suspension masts now bracket broad decks supported by fans of steel cables.

A chief mandate of the lighting project was to create a safe passageway over the Thames after dark, explains Speirs and Major director/designer in charge Mark Major. "The former pedestrian crossing at Hungerford Bridge was relatively obscure and narrow and felt dangerous after dark," he says. "The new lighting aims to attract more people to the bridge—7 million a year by some estimates—and help them make their crossing safely and pleasantly."

Aesthetically, lighting also supports the structure's newfound prominence as a landmark in the cityscape. To establish a distinctive visual presence, the lighting of the bridge had to make an impact within the context of surrounding historic and tourist sites. Big Ben, the Houses of Parliament, and the Savoy Hotel on the north bank are lit conservatively, Major notes, primarily with high-pressure sodium lamps. On the south bank, the National Theatre, Royal Festival Hall, and the London Eye observation wheel are illuminated in a range of styles. "The bridge required its own distinct scheme—not too overt, but with a visual identity that was fitting as a neighbor to some great works of architecture," Major says. "Yet we also wanted to make the bridge festive enough to establish a link to the cultural sector of the south bank."

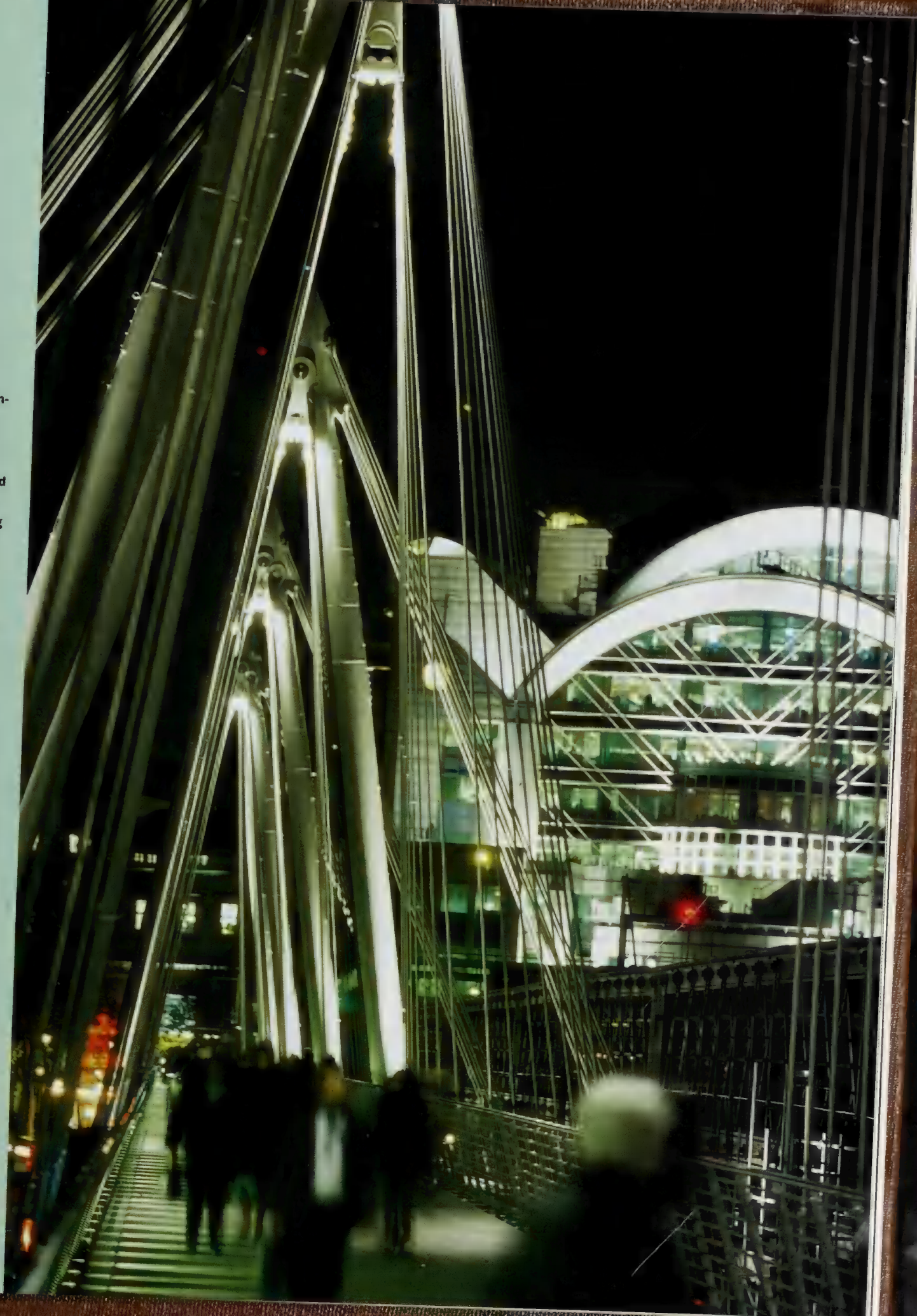
The lighting team also wanted to provide views up and down the river from the bridge decks, unobscured by the structure's own illumination. To accomplish this balancing act, Speirs and Major lit the decks and staircases with high-output, long-life cold cathode lamps fitted into specially developed details within the balustrades. The lamps throw functional white light onto the bridge deck, while requiring little maintenance for up to 10 years. The fixtures are installed on the guard system of the bridge below eye level to maintain the impressive views.



Medium-beam spotlights housing 150-watt lamps and fitted with spread lenses provide downlighting along the inner faces of the cable stays. The downlighting also supplements the deck lighting below. The system allows for lighting to be dimmed to 50 percent after midnight.

To highlight the bridge structure, pylons are subtly backlit using 70-watt, narrow-angle spotlights focused in an upward direction and 35-watt lamps downward. The fixtures are installed on custom outriggers fitted to the main structure. Blue decorative beacons fitted with LEDs punctuate the tops of the pylons and complement soft decorative accents

Project: *Hungerford Bridge, London*
Architect: *Lifschutz Davidson Architects*
Lighting designer: *Speirs and Major Associates—Jonathan Speirs, Mark Major, principals; Laura Jones, Greg Lomas, Steven Power, Henrietta Lynch, project team*
Engineer: *WSP Consulting Engineers (structural, electrical)*
Electrical contractor: *Gifford and Partners*
General contractor: *Costain-Norwest Holst*



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he rail bridge.



Pylons are backlit by narrow-angle spotlights, 70-watt fixtures focused upward and 30-watt fixtures grazing downward (left). Spotlights with spread lenses and 150-watt lamps illuminate the cable stays (below).

from blue diffusers on the riverside balustrades that light the deck. The original brick piers from which the new bridge decks hang are also illuminated with 70-watt asymmetric floodlights fixed to the deck.

All fixture choices and placements were specified not only for maximum visual impact, but to be "highly sustainable and kind to the night sky," according to Major. "Great care was taken to limit light pollution," he says. "All lighting is directed downward except for the spotlight to the tops of the pylons, which are carefully adjusted to ensure that the peak of the beam hits the structure, not the sky."

Although the Hungerford Bridge lighting design was originally conceived between 1997 and 1999, government funding delays derailed the installation until the bridge was opened and eventually illuminated last year. The bridge lighting is part of a series of projects that Major confirms is one of the largest orchestrated exterior lighting upgrades in London's history. The firm is currently designing a new lighting plan for the area around Trafalgar Square and its connection to a bridge via Northumberland Avenue. Major sees the symmetry between the two bridge projects as an opportunity to provide "a continuity of lighting quality, quantity, and character, as well as a seamless connection" between London's newly revitalized public works. ■



Sources

Mast, cable-stay, floodlighting: *Meyer*
Deck, staircase lighting: *Prodigy*
LED beacon lighting: *LEC Lyon*

For more information on this project, go to Projects at **www.architecturalrecord.com.**

mirage

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Lucifer Lighting's new *Mirage* wall washer blurs the line between illusion and reality: an even, ceiling-to-floor wall wash with no hot-spots or shadows, emanating from a virtually invisible fixed downlight. The magic is in our highly-polished internal kick reflector which eliminates scallops and hot spots. Under 4" in diameter, low-voltage *Mirage* is the newest fixture in Lucifer's "Z" Series. All Lucifer downlights feature our unique collar and ball plungers for absolute Zero light leak. *Mirage* is also available with a selection of other diminutive downlight trims.

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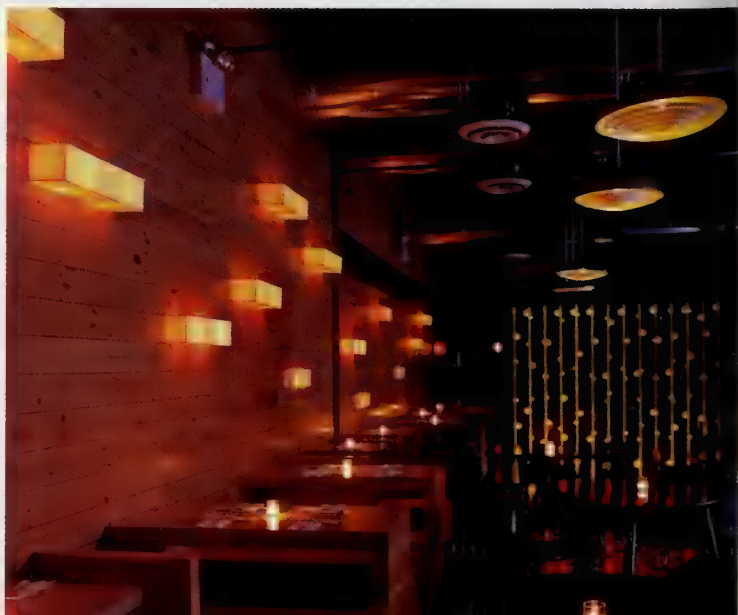
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Created by a multimedia designer, **SEA** is a bistro afloat with eclectic lighting and interior details







By Leanne B. French

A short subway ride from Manhattan to Brooklyn is the city's latest excursion into bohemian chic. Originally an outpost for artists seeking cheaper apartment rents, the Williamsburg neighborhood has blossomed with an active nightlife scene encompassing art galleries, music venues, and restaurants. With a stellar Thai menu and playful "East meets West" interiors, the new SEA bistro has established a beachhead as one of the "Burg's" primary hotspots.

The 7,500-square-foot restaurant, a former meatpacking warehouse, is the sixth SEA Thai Restaurant Group venue designed by Charoonkit "Kit" Thahong. Trained as an industrial designer in his native Thailand, Thahong received a multimedia degree at Parsons School of Design. He works full-time as a computer programmer for an interactive agency but pursues a passion for restaurant design as a parallel career.

The concept for SEA was "to create an urban destination that was casually hip like the neighborhood," Thahong says. Vintage lighting fixtures and chairs are combined with tables and benches built from wood salvaged on-site. Other tables are Noguchi-inspired.

Thahong devised a colored-lighting scheme to distinguish zones—red in the lounge, green in the dining area, and yellow at a second bar toward the back. At the entry, the 70s-inspired lounge and bar area is bathed in red lighting and features a hanging bubble chair, swinging benches, and a deejay booth mimicking the style of a lifeguard stand. Internally lit wood partitions separate dining spaces. Saucerlike hanging fixtures rescued from midcentury diners illuminate the main dining area. A custom iron chandelier, articulated with exposed lamps, hovers above communal seating. In the center of the room, a reflecting pool inspired by Thailand's floating markets is presided over by a standing Buddha grazed by underwater spotlights.

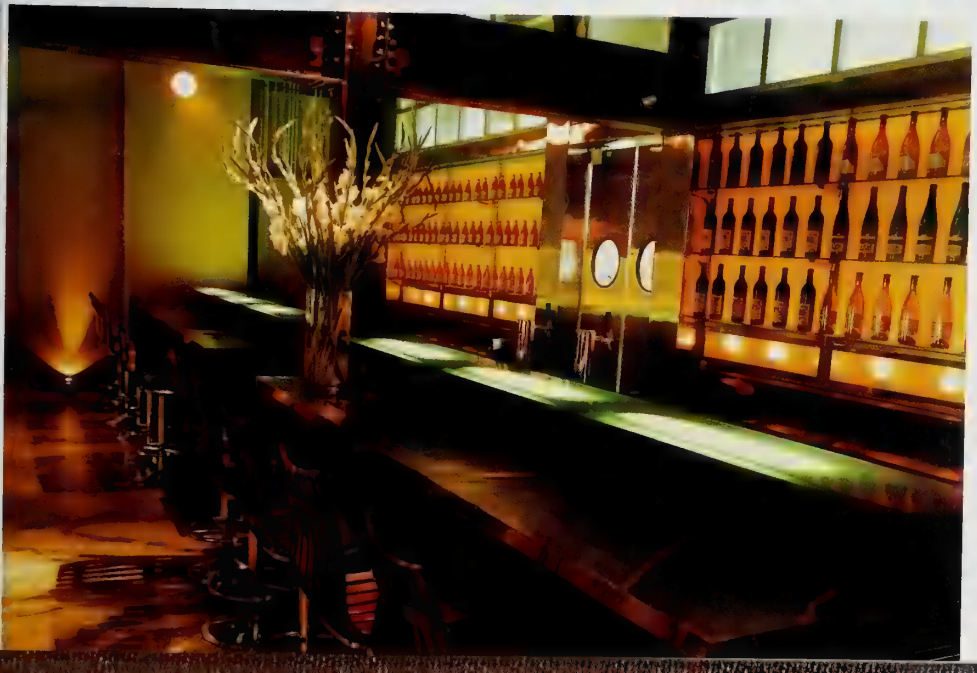
This summer, SEA made a cameo appearance on television's *Sex and the City* as a restaurant called RAW. As an eclectic space that strikes a balance between polished and edgy, SEA creatively employs illumination to welcome all patrons into the multilayered limelight. ■

Project: *SEA, Brooklyn, New York*
Interior, lighting designer: *Charoonkit Thahong, principal; Teerayu Meesupaya, assistant*
Engineer: *Jor Wor Chin*
Electrical engineer: *Fu Shan*
General contractor: *Kitlen Management*
Consultant: *Chotima Photjanuwat (lighting)*

Sources
Track halogens: *WAC Lighting*
Vintage fixtures: *Lot 76 NYC*
Underwater incandescents: *Hydrel*
Lamps: *Philips Lighting; General Electric; Satco; Secton*

For more information on this project, go to Projects at **www.architecturalrecord.com**.





Vintage incandescent pendants and underwater halogens highlight the reflecting pool area (above). Linear fluorescents illuminate a bar top (left), with bottles backlit by PAR lamps fitted with yellow filters. Opposite, top to bottom: Zoned dining areas feature different colors of light. The restroom entry glows red beneath a chandelier. Boxes internally lit by incandescents punctuate pine-clad walls.



Wall Spotlight 200

The Wall Spotlight 200 is one example of several unique wall fixture designs from MP Lighting. This cantilevered wall mounted fixture was designed to adjust the beam spread down the surface of a wall using an adjutable aluminum reflector and a 50W low-pressure halogen bi pin light source. It is available in plated finishes of Chrome, Matte Chrome and Brushed Nickel.

mp lighting

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Lighting Briefs

Euroluce, the biennial European lighting exhibition, shared the spotlight with the Milan Furniture Fair this past April. Over 500 exhibitors featured lighting ranging from minimal to sculptural to otherworldly. *Josephine Minutillo*

▼ See through

Among Artemide's extensive introductions this year was a new suspension lamp by Andrea Anastasio fittingly called T(h)rou(gh). A mix of poetry and sculpture, T(h)rou(gh) features seven globes of light that rest on cutouts in a transparent, circular slab of glass, allowing a portion of the spheres to pass through the slab to give the impression that they are floating in midair. Each of the globes is 4.7" in diameter and contains 100-watt bulbs. The lamp is connected to the ceiling by three thin steel cables intertwined among the individual wires. 631/694-9292. Artemide, Farmingdale, N.Y. **CIRCLE 200**

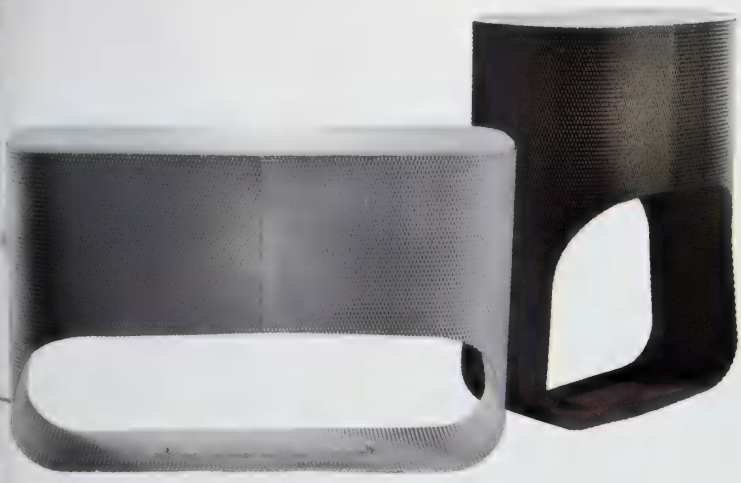






► Beam me up, Scotty

Luceplan introduced more than a dozen new fixtures by a team of young designers this year. The futuristic-looking Agave (right) and Zeno (top), both by Raffaele Tedesco and Diego Rossi, feature unusual materials and shapes that combine transparency, reflection, refraction, and diffusion while reducing energy consumption. Agave's methacrylate ribs come in elliptical, parabolic, and spherical shapes. Zeno's circular reflector contains hexagonal micro-optics that produce different intensities and chromaticities of light to suit the needs of the space in which it is used. 212/989-6265. Luceplan USA, New York City. **CIRCLE 201**



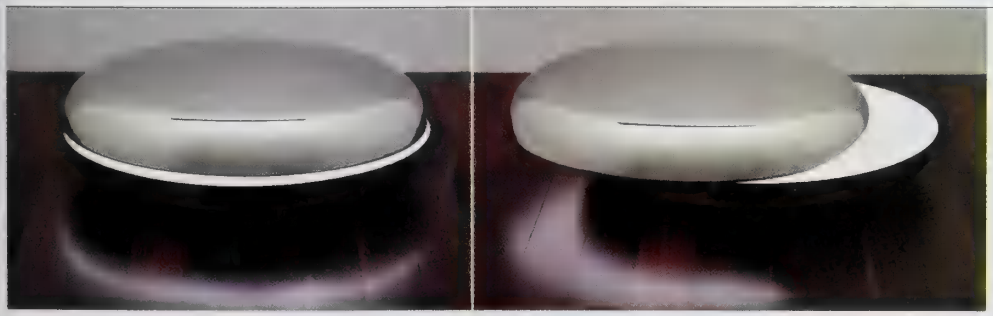
▲ Ring of light

To further its goal of producing fixtures that are truly light sculptures, Foscarini enlisted designers Patricia Urquiola and Eliana Gerotto to create Bague, a table lamp whose perforated metal net acts as a support base and diffuser. The metal is covered with a silicon resin, rendering it soft to the touch while retaining its structural stability. Bague is available in two shapes, as shown, and uses an incandescent bulb. 203/791-0348. North American Light Spectrum, Danbury, Conn. **CIRCLE 202**



◄ Dancing shades

The Valzer floor lamp, by Pallucco Italia, is covered by a fine fabric that is twisted 90 degrees on the central axis, giving the appearance of motion. Available in two heights, 71" or 82½", the internal metal structure features a white epoxy powder finish. The lamp's cylindrical shade is a removable, flame-retardant fabric that conceals six 75-watt incandescent bulbs. 617/451-2212. Adesso, Boston. **CIRCLE 203**



◄ In the loop

Introduced at Euroluce and awarded Best Lighting at this year's International Contemporary Furniture Fair in New York City, Loop is a table lamp whose light diffusion is made possible by rotating the upper portion of the fixture. Designed by Voon Wong, the structure is available in stainless steel or painted nickel. Dimensions are 20" wide x 7" high. 310/247-9933. FontanaArte USA, Los Angeles. **CIRCLE 204**

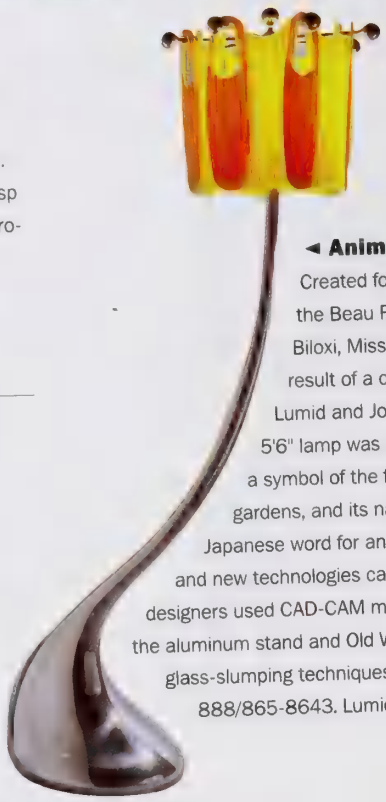
Lighting Briefs

Last May, the annual Lightfair International trade show was held in New York City (next year's show is in Las Vegas). Here are a few of the innovative designs and technologies that were on display at the show. *Rita F. Catinella*



◄ Powerful lamp

The Metalarc Powerball Ceramic 150-watt lamp combines conventional metal-halide pulse-start characteristics with high color rendering (CRI 89). Ideal for retail and other applications where a crisp white light is necessary, the lamp incorporates Pro-Tech and pulse-start technology for use in open fixtures and for improved lumen maintenance. 978/777-1900. Osram Sylvania, Danvers, Mass. **CIRCLE 205**



◄ Animated design

Created for a Japanese restaurant at the Beau Rivage Resort Hotel in Biloxi, Mississippi, Anna-Mae is the result of a collaboration between Lumid and Jordan Mozer Studios. The 5'6" lamp was inspired by the willow tree, a symbol of the female life force in Japanese gardens, and its name is a play on the Japanese word for animation. Proving that old and new technologies can work side by side, the designers used CAD-CAM milling technology to create the aluminum stand and Old World glass-fusing and glass-slumping techniques for the colorful shade. 888/865-8643. Lumid, Montreal. **CIRCLE 207**

► For a colorful change

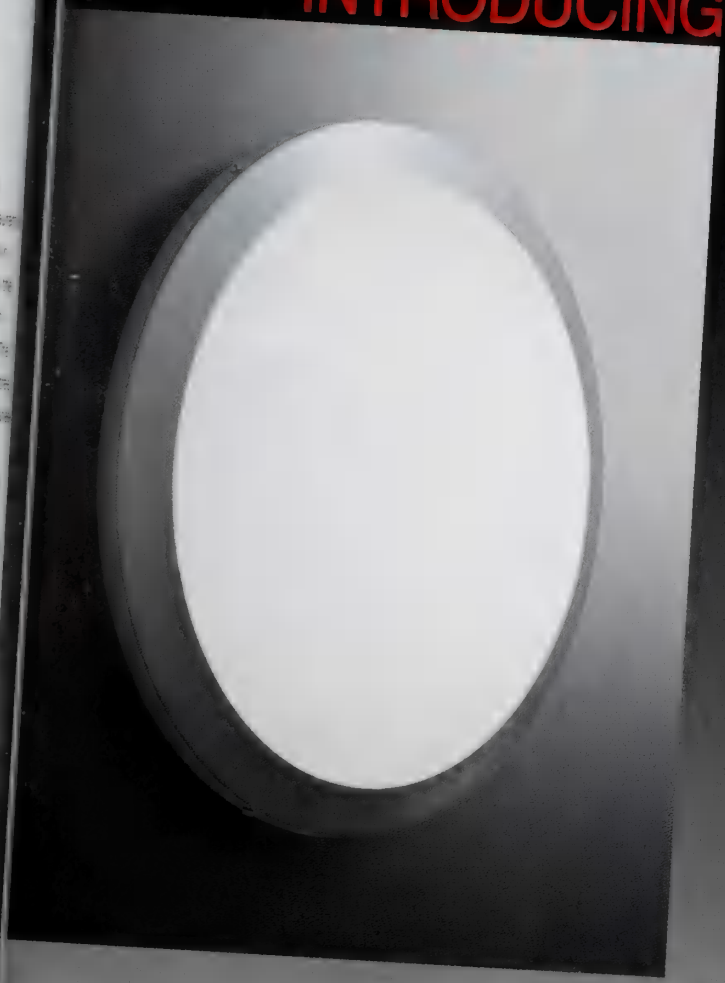
The Ledos RGB luminaires use integrated color-changing-control technology to create high-impact color-changing effects. The die-cast aluminum or stainless-steel housings come in a round or square shape and may be used inside or out in floor, ceiling, and wall applications. The fixtures are compatible with all DMX512 control systems or can be operated with Zumtobel's ChromaSelector. 800/932-0633. Zumtobel Staff, Highland, N.Y. **CIRCLE 206**



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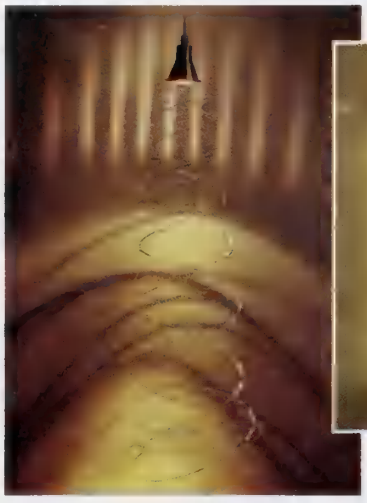
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Lighting Briefs

Lightfair International





▲ Israeli industrial design

Since launching the Michael Graves lighting line in 1986, Baldinger has developed a tradition of introducing designs by internationally acclaimed designers, as well as up-and-coming talents such as Liat Poysner. Born in Zirchon Ya'akov, Poysner became enamored of the photochemical etching process while working at a machining plant. Using this etching technology, stainless-steel sheets, and light, she produces shades that can be assembled manually in an origami-paper-folding technique that requires no screws or welding. 718/204-5700. Baldinger Architectural Lighting, Astoria, N.Y. **CIRCLE 208**

► Metal and glass collaborations

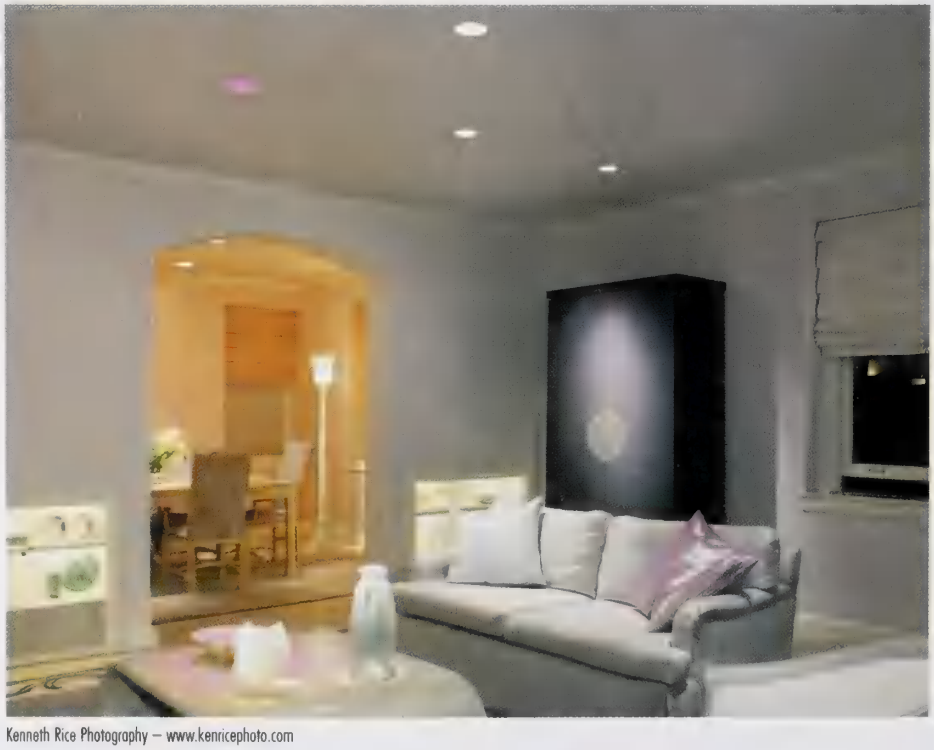
The restyled Vittoria collection (top right) features a sparkling, clear glass diffuser and a new antiglare screen that is finished in polished chrome. The floor-lamp version features a restyled base and stem details. The multiple facets of the Manhattan luminaire (bottom right) allow you to view the design from four different perspectives. Reminiscent of the Constructivist period, the Manhattan wall- and table-lamp series features a satin white or multistriped glass diffuser and a metal framing structure in a polished chrome or titanium painted finish. 732/225-0010. Leucos USA, Edison, N.J. **CIRCLE 209**



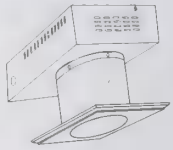


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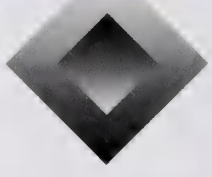


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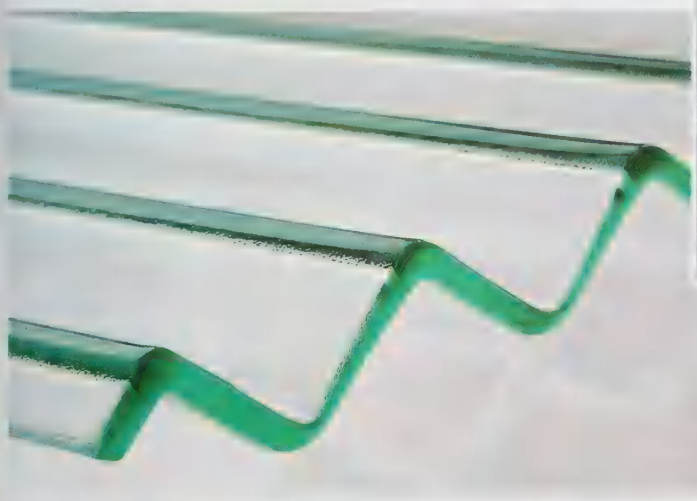
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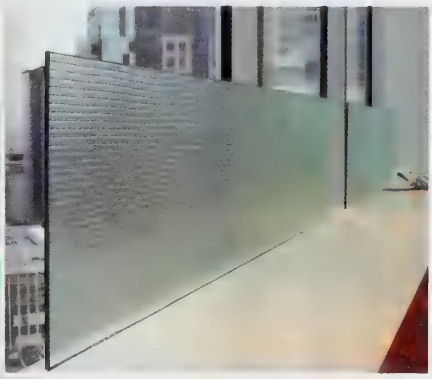
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New Products

The following **glass and glazing** products have been cast, sandblasted, glazed, and transformed by various other forms of artistry and engineering to create the right design or function required by specifiers. Many of these products are a response to economic, energy-efficiency, and/or **building-code issues** that concern today's architects and designers. *Rita F. Catinella*

New textures, processing techniques, and ventures for a Canadian glass studio





Trio corrugated cast glass (left). Echo Editions privacy screen (above).

The latest addition to Joel Berman's palette of cast-glass designs is Trio, named for its triangular corrugated motif. Launched at the AIA's convention held last May in San Diego, Trio is the third texture of Berman's 3D Studio Line, following a curved corrugated design, known as Corrugated, and an abstract pattern inspired by crumpled paper, called Arrigado. Trio was inspired by Berman's work with pyramid structures in glass in the 1980s, created with glass designer Ludwig Schaffrath, one of the founders of the contemporary architectural glass movement. The Trio texture is available in ¼" and ⅜" thicknesses and in panel sizes up to 5' x 12'.

At the AIA show, Berman also introduced Echo Editions, a new line of competitively priced textured glass products. Developed using a modern processing technique, Berman's pressure-formed glass is available in large quantities for immediate delivery. Although Berman kiln-cast glass products remain an option for high-traffic prestige locations such as reception areas, the new Echo Editions line allows architects and designers the possibility of extending Berman glass into areas such as partition walls, door panels, and windows throughout the office. Popular textures and designs such as the linear Grande Rake and organic Pietra will now be available in the new format.

In addition, the company recently acquired the North American rights for a process to produce the first commercial transparent glass paint, and it announced that DuPont Corian will be creating a line of Joel Berman's designs as part of its collection of solid surfacing patterns. 888/505-GLASS. Joel Berman Glass Studios, Vancouver, Canada. CIRCLE 210

Ransom Center's treasures captured on sandblasted glass walls

The Harry Ransom Humanities Research Center at the University of Texas at Austin houses 30 million literary manuscripts, one million rare books, five million photographs, and more than 100,000 works of art. For the center's recently completed renovation, San Antonio-based Lake/Flato Architects transposed some of the collection's instantly recognizable images onto a three-sided glass wall entrance. This accomplished two goals—to help bring natural light into what had previously been a dark and uninviting interior, and to further promote Harry Ransom's goal to make the collection available to the public for research. Lake/Flato worked with Austin graphic design firm fd2s Inc. and Chicago-based glass fabricators Skyline Design to transform the center's digital collection of photos, text, and film images into a 12,000-square-foot glass display. For the project, Skyline used Photo Glass, a proprietary process that pixelates an image that can be sandblasted onto any thickness of glass—in this case a ¼" piece of tempered glass on the inside of a 1" insulated-glass unit.





Skyline overcame several challenges to transpose digital images onto glass.

Skyline quickly discovered that for this particular application a pure sandblasted finish would be too translucent to see. The firm solved the problem by adding a natural pigment to the halftone images that would obscure the sandblasting but remain subtle enough to allow light into the space. Another issue that arose during fabrication was determining how to treat images such as watercolors or charcoal sketches that fell somewhere between line art and photography. In a trial-and-error process, the Skyline team discovered a way to correctly replicate even those trickier images that were not purely positive or negative. 773/278-4660. Skyline Design, Chicago. CIRCLE 211

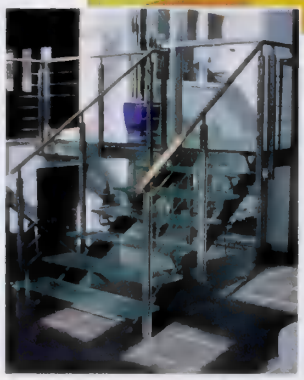
New Products



▼ Flexible window wall

Wausau's new RX Series window wall can be used for almost any punched opening; a continuous, vertical strip of windows; a horizontal ribbon of windows; or a low-rise curtain wall. The RX Series meets rigorous performance standards for water-resistance, air-infiltration, and thermal-efficiency, as well as accommodating seismic and inter-story differential movement. 877/678-2983. Wausau Window and Wall Systems, Wausau, Wis. **CIRCLE 212**





◄ Tables and treads

Nathan Allan Glass Studios now offers stair treads and landings in clear, crystal clear, textured, and colored cast glass, all with an exclusive nonskid protective surface. Also new from Nathan Allan are tables produced with ⅛"-, ½"-, or ¾"-thick textures in square, rectangular, triangular, oval, and circular shapes. 604/277-8533. Nathan Allan Glass Studios, Richmond, British Columbia. **CIRCLE 213**

► Cooling effect

The Oceans of Color collection from PPG is engineered to provide more color options along with industry-leading ratings for high visible light transmittance, reduced infrared transmittance, and low solar-heat-gain coefficient. The four spectrally selective tinted glasses, available in aqua green, emerald green, aqua blue, and light green, are intended to significantly reduce the demand on a building's artificial light and cooling systems. 800/377-5267. PPG Industries, Pittsburgh. **CIRCLE 214**



▼ Code-ready wired glass

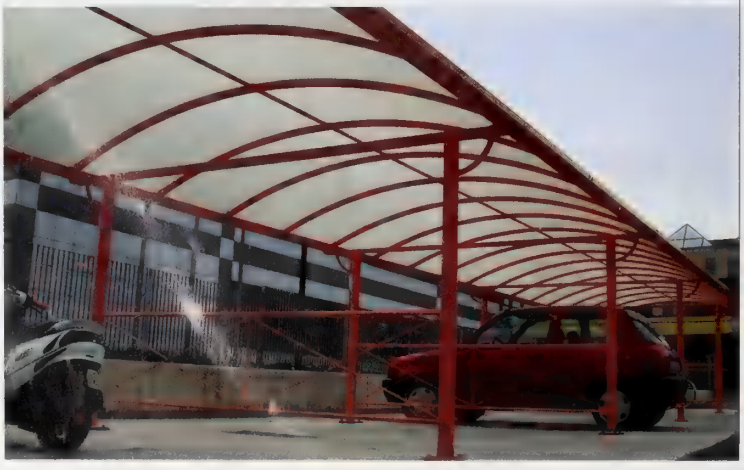
In the 2003 edition of the International Building Code and the NFPA 5000 building code, there are certain applications where wired glass is traditionally used that will need to meet the impact requirements of CPSC's Cat. 1 impact-safety requirements.



Pyroshield Plus, a special laminated glass variant of Pilkington's Pyroshield products, is an economical response to those code changes that is readily available in stock sizes up to 9 square feet. 800/431-2042. General Glass International, Secaucus, N.J. **CIRCLE 216**

▼ New plastic glazing products available in the U.S.

While Gallina has been designing and manufacturing plastic glazing products throughout Europe for nearly half a century, its products have not been available in North America until now. Gallina's polycarbonate sheets have built-in tongue-and-groove connectors that eliminate the need for separate profiles, saving time on installation. Gallina also offers modular panel systems for roofing, insulated windows, and side-window systems, including accessories. 608/868-4215. Gallina USA, Milton, Wis. **CIRCLE 215**



► 60-minute-rated glazed wall system



A part of InterEdge Technologies growing Vision Series of doors, windows, and transparent wall systems, the Vision 60 System is a fully glazed, 60-minute-rated wall system that requires no framing other than on the outside perimeter. Vision 60 can be used in airports, retail centers, commercial office buildings, hospitals, schools, and other locations that require uninterrupted viewing. A Pyrobel 60 glazing is available for the system in maximum panels of 48" x 96", which can be glazed horizontally or vertically, but not stacked. 877/376-3343. InterEdge Technologies, Sausalito, Calif. **CIRCLE 217**

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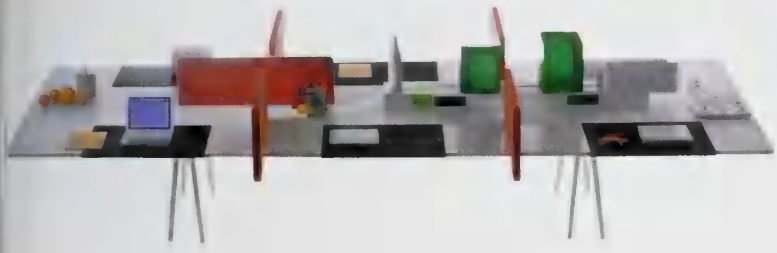
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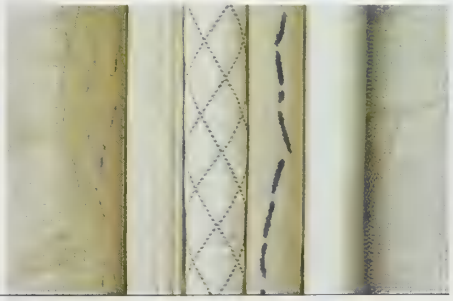
▼ Joining the workforce

Vitra's newest office concept, Joyn, is a work platform from which individual zones are defined with accessories that either drop in the middle or slide onto the edge without tools. Designed by the Bouroullec brothers, Ronan and Erwan, Joyn's workstations are defined by lightweight, fabric-covered lateral screens or walls that slip over the table edge at any point. The system also includes three pieces of "micro architecture"—Canopy, Bay, and Talkpoint—that define space or create private areas for phone calls or one-on-one meetings. 212/929-3626. Vitra, New York City. CIRCLE 218



▼ It's a wrap

Inspired by the textures of protective materials such as bubble wrap, corrugated cardboard, and ace bandages, *in-a-bind* is a new collection of textiles designed by Laura Guido-Clark in collaboration with Metropolitan Furniture Corporation for Designtex. The collection includes five upholstery fabrics in a cotton/polyester blend (Ace, Blanket Wrap, Corrugated, Staple, Stitch), a tack-panel fabric (Bubble Wrap), and a 100 percent wool fabric (Yarn). 800/221-1540. Designtex Group, New York City. CIRCLE 219

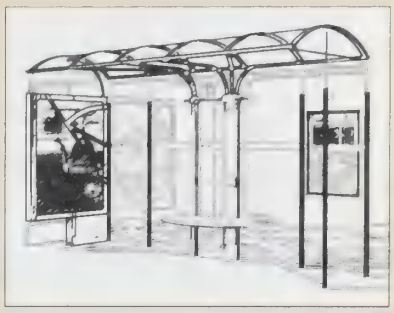


▼ Organic coverings

Odegard's new floral rug collection, Botanica, is made by child-free labor in an ancient Nepalese weave tradition. Created with vegetable dyes, each design in the collection features botanical details that range from blossoms to furled leaves to vines that creep along the carpet's edge. The Botanica Collection's floral elements are often treated as cutout shapes and silhouettes and set in relief by additional graphic details, such as stripes and open windows. 212/545-0069. Odegard, New York City. CIRCLE 221



Product of the Month
Street Furniture





Cemusa, headquartered in Madrid, has designed, manufactured, installed, and currently maintains more than 100,000 units of street furniture in more than 110 cities around the world. Working with city councils and acclaimed architects and designers, such as Richard Rogers, Nicholas Grimshaw, and Oscar Niemeyer (designer Jean Piantanida's bus-shelter drawing and final product are shown here), the firm develops bus shelters, clocks, public-information panels and stands, press kiosks, automatic toilets, and special trash containers for the needs of various urban environments. In the U.S., for example, Cemusa has recently been awarded a project for 3,000 hurricane-proof and solar-powered bus shelters in Miami-Dade County. However, cities such as Miami do not foot the bill for the products or their maintenance throughout the years. Instead, those costs are covered by revenue from the advertising displayed on the furnishings—therefore making it possible to work within even the most strapped city budgets. Cemusa's "green" initiatives involve studying the life cycle of their components as well as using local manufacturing facilities to help the city's environment and economy. 312/867-5425. Cemusa, Chicago. CIRCLE 220





▲ Technical to natural

Meta Plasma is a new series of wall storage, fittings, and accessories developed by Sieger Design for Dornbracht that are fabricated from an acrylic material that interacts with natural lighting in such a way that corners and edges appear to be magically illuminated. The furnishings collection is composed of basic cubes, rectangular storage modules that create an expanse of shelf, and framed mirrors. Also from Sieger for Dornbracht is the MEM collection of faucets and fittings that are designed without an aerator to recapture water's original force. The Rain Sky overhead rain-shower spray system resembles an integrated ceiling vent, but in place of vanes is a panel that allows the water to spray down like a natural rainfall. 800/774-1181. Dornbracht USA, Duluth, Ga. CIRCLE 222



Introducing Walker® FloorPort™ Series.

The new Walker FloorPort series of service fittings gives you the flexibility to specify according to style, not just the application. FloorPort activations work interchangeably with many infloor systems, so your covers can be consistent throughout buildings with more than one wire management system. They feature 25% more cable egress capacity, are stronger than ever before, and are available in a variety of coated finishes: textured aluminum, brass and black. Plus, the activations provide TopGuard™ protection against water, dust and debris, exceeding the new UL® scrub water standards for carpet and tile floor surfaces. With the FloorPort Series, the choice is easy. Call 1-800-621-0049 or visit www.wiremold.com for more information.

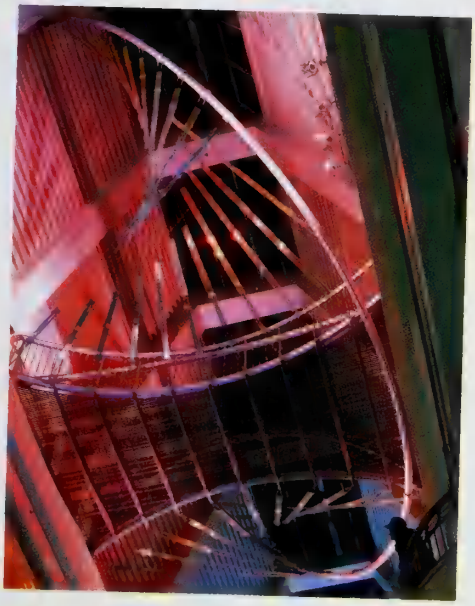
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WIREMOLD®

Product Briefs

► Pipe dreamers



By mastering hot and cold bending techniques over the past six decades, Albina Pipe Bending Company has the capabilities to bend pipe and tubing ranging in size from ⅛" to more than 26" in diameter. In addition to pipe and tubing, Albina works with all forms of structural steel (e.g., angle, wide flange and I-beams, channels, square and rectangular tubing, and bars), as well as virtually any other ferrous and nonferrous metal. Albina has fabricated several structures designed by artist Ed Carpenter, including pieces for 510 North Atrium in Chicago, Safeco Insurance Building in Seattle, and the Central Washington University Bridge in Ellensburg, Washington (shown). 866/ALBINA8. Albina Pipe Bending, Tualatin, Ore. **CIRCLE 223**

▼ A partnership of flooring and windows

According to Sandy Chilewich, one of the inventors of the Plynyl woven vinyl floor covering, her company has wanted to create textiles for windows and room dividers for a long time but was held back because of the design limitations they saw in the available hardware. The company has now found the right partner in Silent Gliss USA, a supplier of roller shades, blinds, and panels, which will manufacture and distribute a collection of roller shades and panel glides utilizing WindowLace, a finely woven vinyl in a variety of patterns designed by Chilewich. 212/679-9204. Chilewich, New York City. **CIRCLE 224**



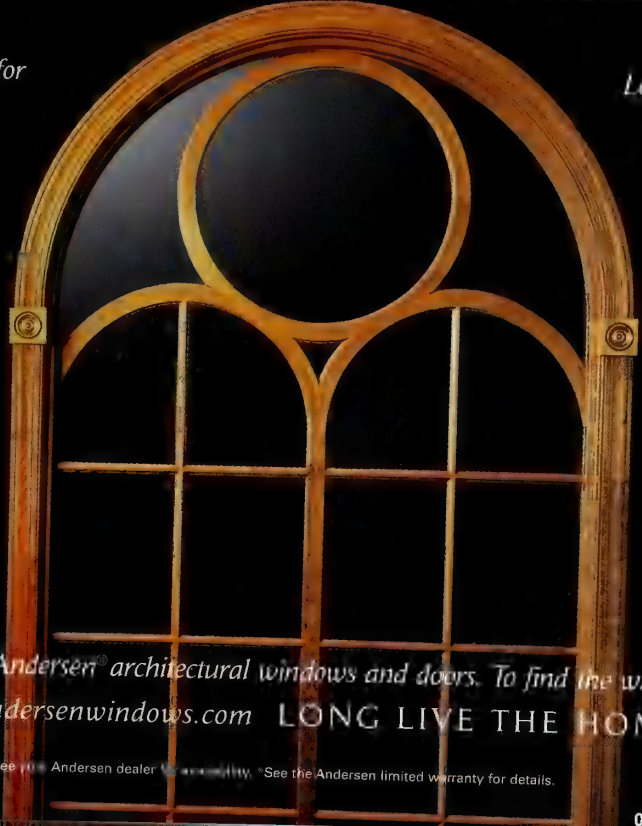
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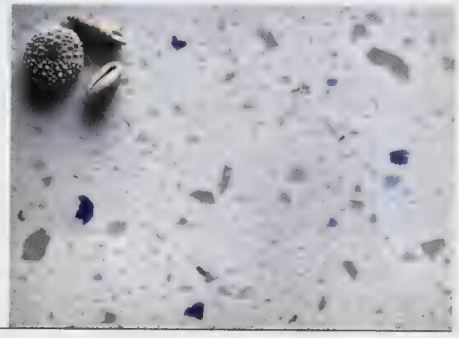


▲ Natural separation

The Woven Trellis System from Heltzer can divide and define space for gardens, decks, terraces, hotels, restaurants, and pools. Offered in both mobile and stationary versions for indoor or outdoor areas, the system provides a physical wall while supporting various accessories by means of a specially designed universal attachment. A series of four planters sit on the base, allowing plants and shrubs to grow up the slats of the trellis. 877/561-5612. Heltzer, Chicago. **CIRCLE 225**

▼ Sea glass

Avonite's recycled program was initiated in 1997 in response to a corporate directive to strive for manufacturing facilities with zero waste-material discharge. Cozumel, the company's latest recycled product, features colored particulate produced from reclaimed Avonite Glass Series materials that previously would have been shipped to a landfill. Cozumel can be fabricated into special edges, backsplashes, inlays, accents, or sinks for kitchen, bathroom, hospitality, and commercial applications. 800/428-6648. Avonite, Belen, N.M. **CIRCLE 226**





◄ Royal flush

The Crown II is Sloan's latest addition to its piston Flushometer line. The product features a Bak Check control stop with a vandal-resistant spin cap and an ADA-compliant, triple-seal handle that is designed to ensure a fixed flush volume and eliminate overflowing. Crown II's outside cover is offered with accent rings in brushed nickel, lustre gold, polished brass, and satin finishes. 800/9-VALVE-9. Sloan Valve Company, Franklin Park, Ill. **CIRCLE 227**

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Product Literature







Kitchen showcase

SieMatic's *American Landscape* brochure series includes the *Modern Classics* and *International Style* titles. The brochures feature actual customer kitchens that showcase the wide range of interpretation available with SieMatic products. 215/244-6813. SieMatic, Bensalem, Pa. **CIRCLE 228**

Marketing a new concept

Whirlpool has created a *Family Studio Planning Guide* portfolio of materials, including an interactive CD-ROM, designed to help architects and designers familiarize themselves and introduce clients to the Family Studio concept. 800/253-3977. Whirlpool, Benton Harbor, Mich. **CIRCLE 229**

Color lighting catalog

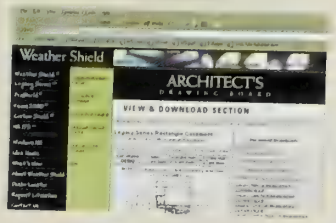
In conjunction with its new collection of architectural lighting designs, Ultralights has introduced a new catalog of the company's entire product line. Together with an improved layout of options and specifications, Ultralights now offers color photography. 520/623-9829. Ultralights, Tuscon. **CIRCLE 230**

Range of table/floor lamps

Nova Lighting has introduced a new 24-page catalog featuring a complete line of contemporary and transitional table lamps, as well as torchères and other floor lamps. The Nova line features more than 300 different styles in a range of profiles and bases. 323/277-6266. Nova Lighting, Huntington Park, Calif. **CIRCLE 231**

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Weather Shield now offers online Architectural Design Manuals **www.weathershield.com**



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September 11–13, 2003; Washington, D.C.
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Questions to *caj@aia.org*

Density: Myth and Reality
September 12–14, 2003; Boston
Providers: Boston Society of Architects, Regional and Urban Design Committee, Housing Committee, and Center for Livable Communities
Questions to *tdavis@aia.org*

Restoration and Renovation Conference and Exhibition
September 18–21, 2003; Chicago
Provider: Restore Media, LLC
Selected education sessions provided by the Historic Resources Committee
Questions to *hrc@aia.org*

Strategically Leverage Your Prime Asset: Your Future Depends On It!
October 8–10, 2003; Savannah
Provider: Practice Management PIA
Sponsor: Graphisoft
Questions to *practicemanagement@aia.org*

Urban and Innovative Schools: The Cultural and Social Role of Educational Architecture
October 9–11, 2003; Minneapolis
Provider: Committee on Architecture for Education
Questions to *cae@aia.org*

Cleveland: The Treasures Within
October 16–18, 2000; Cleveland
Provider: Interfaith Forum on Religion, Art, and Architecture
Questions to *ifraa@aia.org*

Connecting the Dots: Understanding the Emerging Digital Building Process
October 16–19, 2003; San Francisco
Provider: Technology in Architectural Practice PIA
Sponsors: Autodesk Revit, Bentley Systems, Inc., and Graphisoft
Questions to *tap@aia.org*

IFMA World Workplace 2003
October 19–21, 2003; Dallas
Provider: International Facilities Management Association
Education session (design/collaboration track) provided by Facility Management PIA
Questions to *facilitymanagement@aia.org*

Mold in the Built Environment: Perspectives for Architects
November 8, 2003; San Antonio
Providers: Building Performance PIA, Specifications and Building Technology, Committee on the Environment, and Housing PIA
Questions to *plukas@aia.org*

Historic American Buildings Survey 70th Anniversary Symposium: Technology and Architectural Documentation
November 14–16, 2003; Washington, D.C.
Provider: Historic American Buildings Survey, National Park Service; Library of Congress; Historic Resources Committee
Questions to *hrc@aia.org*

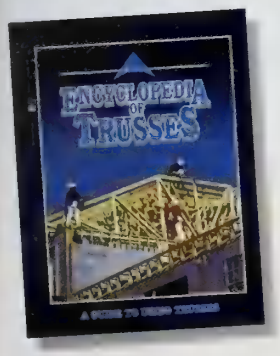
Women, Children, and Healthcare: Designing Facilities for Distinctive Needs
November 19–22, 2003; Denver
Provider: Academy of Architecture for Health
Questions to *jbarry@aia.org*

Visit the AIA's Web site, *www.aia.org*, for information on registration and hotel accommodations.

Product Literature









Motorized lift system CD

Since 1955, Auton Motorized Systems has been providing motorized lift systems for homes, offices, hotels, yachts, and aircraft. Auton now offers a business card CD that contains current information on Auton's products along with CAD drawings. 661/257-9282. Auton Motorized Systems, Valencia, Calif. **CIRCLE 232**

Trusses from A to Z

The *Encyclopedia of Trusses* has been completely updated and redesigned in full color. More than 250 color photographs and illustrations show typical framing systems, variations and options, truss shapes and configurations, and temporary and permanent bracing examples. 954/781-3333. Alpine Engineered Products, Pompano Beach, Fla. **CIRCLE 233**

Impact-resistant products

Pawling Corporation's Architectural Products Division offers a catalog illustrating the 2003 PRO•TEK line of impact-resistant parking and safety products. The products include heavy-duty corner and wall guards, extruded bumpers, speed bumps, parking blocks, and bollard covers. 800/431-3456. Pawling, Wassaic, N.Y. **CIRCLE 234**

Jerusalem stone book

Jerusalem Garden Stone's *New Architectural Book* shows completed projects for clients around the world who have specified the company's various stones and finishes. 972 2 9922113. Jerusalem Gardens Stone Works, Beit Shemesh, Israel. **CIRCLE 235**

Technical bulletin on stucco

The Stucco Manufacturers Association offers technical information on efflorescence in Portland cement plaster finishes, or 3-coat stucco. Efflorescence is the crystalline deposit, usually white, that may develop on the surface of integrally colored exterior Portland cement plaster finishes. The technical bulletin includes information on causes, prevention, and remedies. 949/640-9902. Stucco Manufacturers Association, Newport Beach, Calif. **CIRCLE 236**

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Send the submission form (following page), image, sample, and descriptive material to:

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Please take a few minutes to round up the photos and information needed. If you have any questions, send a note to the Products Editor, Rita F. Catinella, at rita_catinella@mcgraw-hill.com.

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3. ❑ **A 50- to 60-word description of the building product, or a press release, catalog page, or insert that gives pertinent architectural and performance information is included.**

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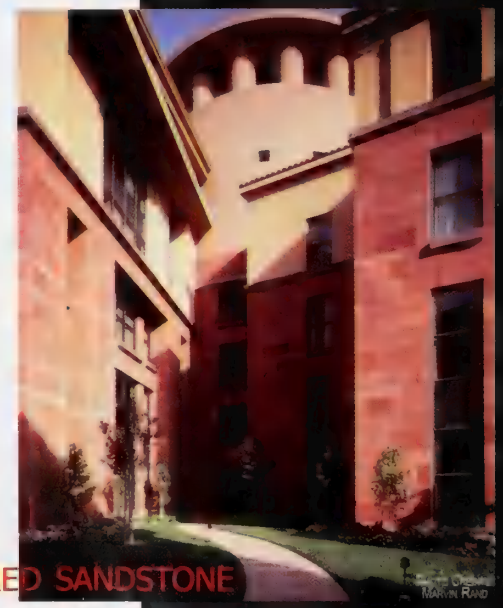
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3.	a	b	c	d	**8.**	a	b	c	d
4.	a	b	c	d	**9.**	a	b	c	d
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2.	a	b	c	d	**7.**	a	b	c	d
3.	a	b	c	d	**8.**	a	b	c	d
4.	a	b	c	d	**9.**	a	b	c	d
5.	a	b	c	d	**10.**	a	b	c	d

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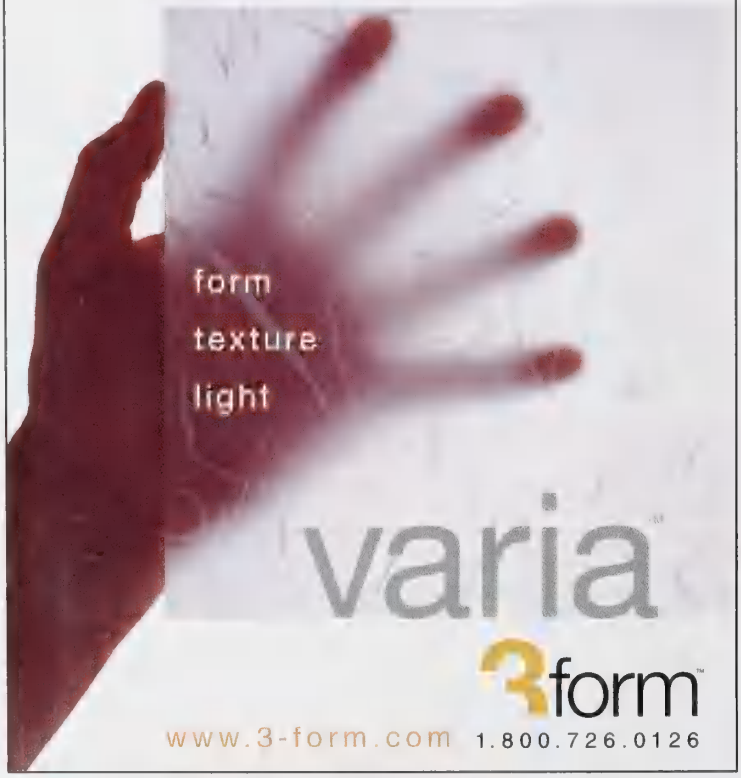
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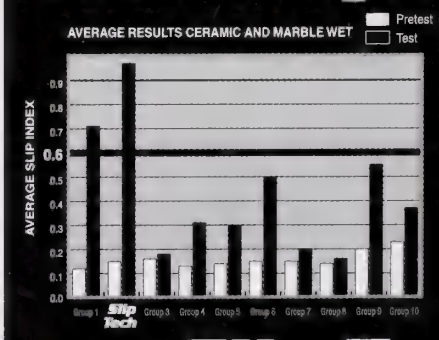
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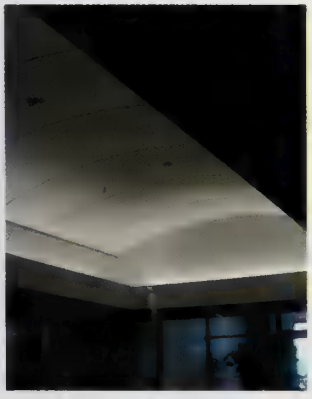


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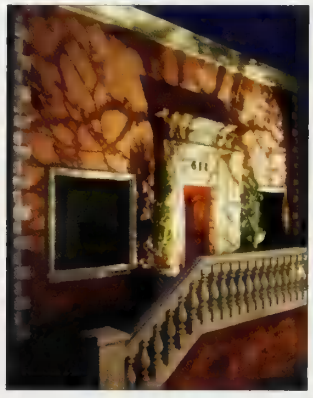


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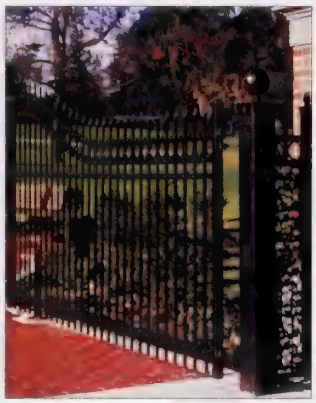


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Applications

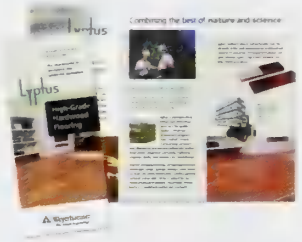


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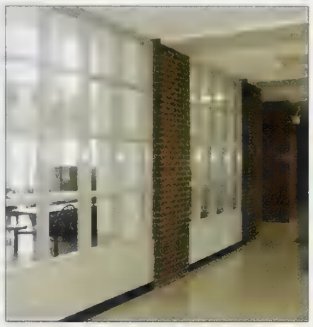


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Fire Rated Glass Solutions



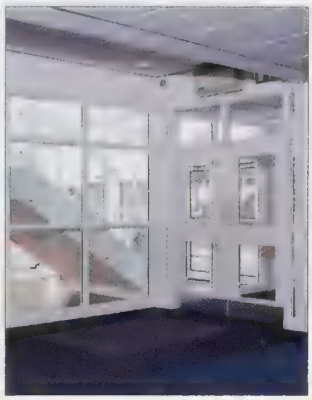
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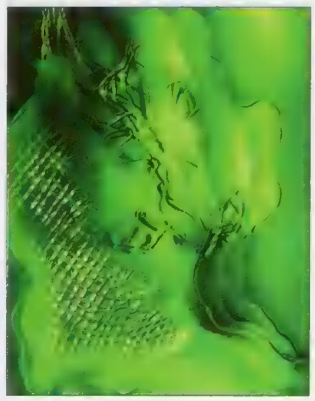


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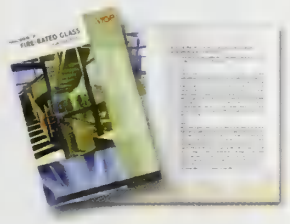


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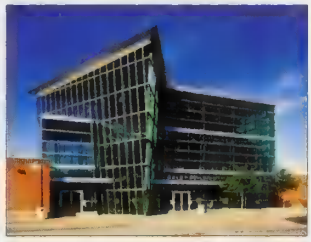


Technical Glass Products has released a new handbook that specifically addresses issues at stake in specifying fire-rated glass for school construction. Written in a question and answer format, the 12-page handbook discusses recent code changes, impact protection and selecting appropriate products for educational facilities. It also provides a chart that offers a side-by-side comparison of fire-rated glazing options. 1-888-397-FIRE (3473) www.fireglass.com.

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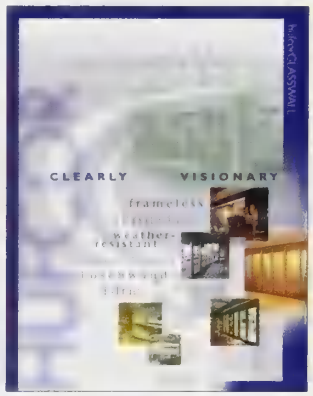


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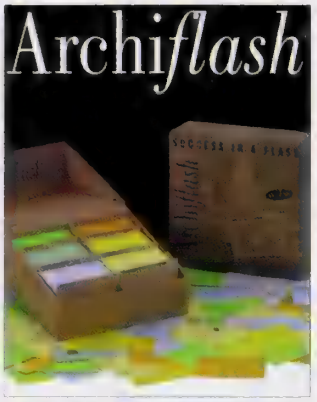


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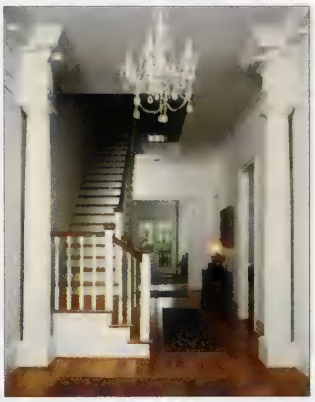


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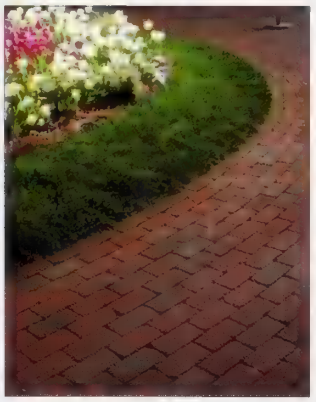


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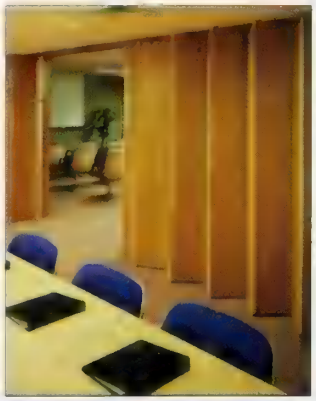


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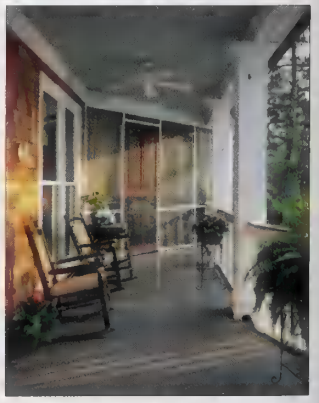


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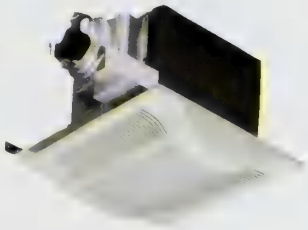


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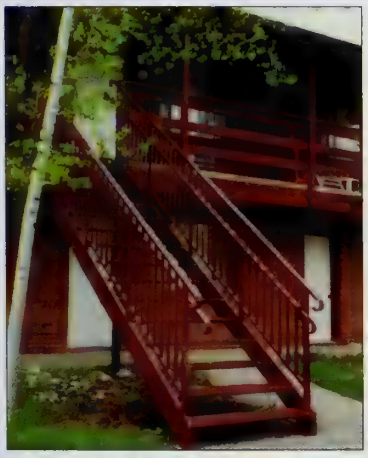
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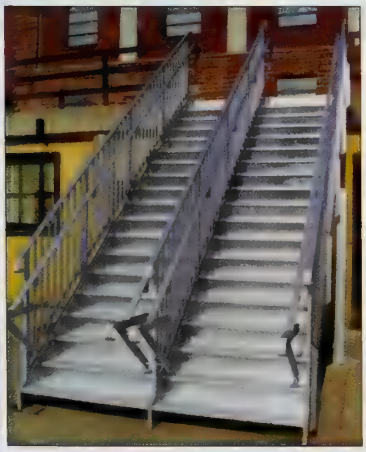
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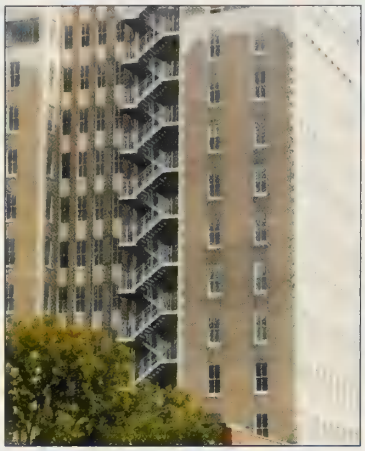
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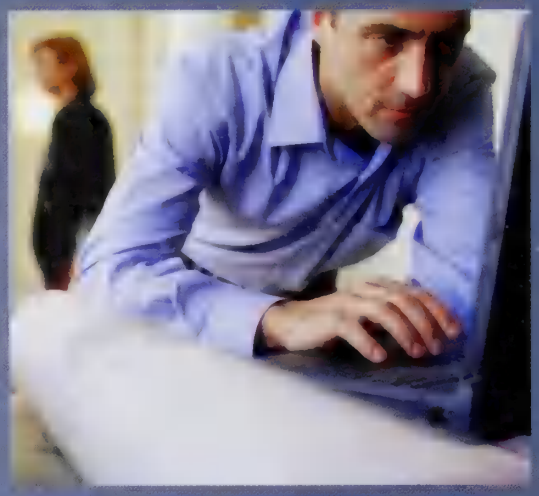




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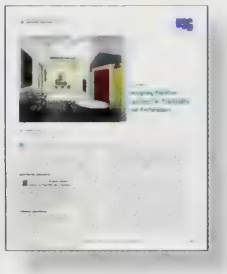
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Jeff Speck: A New Urbanist finds a new purpose at the NEA

Interviewed by Ingrid Whitehead

Jeff Speck, the 39-year-old director of town planning at the Miami firm of Duany Plater-Zyberk (DPZ), wasn't looking for a new job, especially one as director of design at the NEA. In fact, he was happily ensconced at the New Urbanist firm, fighting sprawl and urban disinvestment and directing and managing projects worldwide. Still, once he was in the running and had the blessings of his employers, it seemed the perfect match. After 10 years with DPZ, and having coauthored the so-called "New Urbanist bible," Suburban Nation: The Rise of Sprawl and the Decline of the American Dream, *Speck may have just the right amount of experience, enthusiasm, and ideas to give American design a shot in the arm.*

Q: *Why were you chosen?* The chairman is a poet, not a bureaucrat. I think it was important to him to have a practicing designer, and someone who approached design in terms of its relationship to quality of life. While I have a tremendous interest in aesthetic and theoretical issues, my work as a city planner requires that I make every design decision in light of its possible benefit or detriment to the community. Will it bring people together or isolate them? Will it create more pedestrians or couch potatoes? Will it reduce or increase our energy use and pollution?

How will your theories about architecture, and New Urbanism, affect your role at the NEA? My main role is to identify the experts who will serve on our grant-giving panels and beg these very busy people to read dozens of applications when they could otherwise be catching up on their sleep. I was not hired to impose a New Urban agenda. But if you read the Charter of the New Urbanism, there is little in there that any socially responsible designer would dispute. It is not antimodern, and nor am I. Just as the New Urbanism is not about style, I don't see it as my role to promote either traditional or avant-garde architecture. However, it is important to distinguish between Modernist architecture and Modernist urbanism, the latter of which replaced social goals with aesthetic ones at too large a scale.

How will you do this job differently than the previous director, Mark Robbins? Mark directed the Mayors Institute in Urban Design and the University/Community Design Partnerships Program, both of which I hope to continue. Once I get a better sense of my resources, I will propose other initiatives. I share with Mark a deep concern about what he refers to as the gulf between professional discourse and popular culture. There is an incredible amount of good design in America, yet little of it finds its way to the American people. This becomes more the case as one increases scale, such that product design, housewares, and furniture have been doing pretty darn well—think about the iMac and the Beetle—but mass-market architecture, landscapes, suburbs, and regions do not reflect the best that we have to offer. The saddest thing is that the larger the scale, the greater the effect on quality of life. So, the gap I now see is not about taste, but about access.

How will you ensure results? I don't see how we can fail. Designers are problem solvers. The only question is how many designers we can introduce to how many problems. I have a lot of ideas I'm excited about, but all I can say right now is Watch This Space. The NEA is an organization that I am just beginning to understand. Once I have a better grasp of its orientation and capacities, I will begin to edit my far-flung collection of ideas into something that can be accomplished.

Photograph by Carlos Morales

CHALLENGING The Status-Quo

How one firm switched to VectorWorks and hasn't looked back

Neale Staniszkis Doll Adams

Dr. Peter Centre

When **Neale Staniszkis Doll Adams (NSDA)**, the award-winning Vancouver architectural firm and innovator of the home concept in **British Columbian** healthcare, needed to streamline its design process, the partners analyzed all the major CAD software packages and chose VectorWorks.

"We were among the first architectural firms to reject the traditional institutional model in healthcare design and replace it with the home concept, which is fast becoming the new paradigm in healthcare architecture for the elderly," according to NSDA. **"When we needed a new paradigm in CAD software, we turned to VectorWorks and found a feature-rich, out-of-the-box solution that saved us both time and money."**

Designers of high-profile buildings like the **Dr. Peter Centre and Dunsmuir House for the Salvation Army Seniors Home in British Columbia**, NSDA is responsible for the introduction of many innovative healthcare features for the elderly and critically ill. NSDA liked the idea of finding an equally innovative firm as their CAD partner.

VectorWorks not only **saved NSDA money**, it out-distanced the rest of the competition in overall performance, from fast **2D drawing to powerful 3D modeling**, with no expensive add-ons or other programs to learn. And, **technical support is provided at no charge.**

"VectorWorks created possibilities that we just didn't have before," cites Larry Adams. **"We can now produce stunning presentation materials, clear and graphically-rich working drawings, and 3D models and animations—all with one program."**

With a staff of 21, transitioning to new software was still a big step. However, VectorWorks made it easy. **NSDA switched to VectorWorks without a hitch.**

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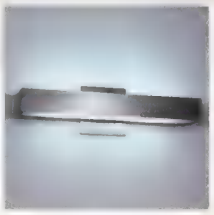
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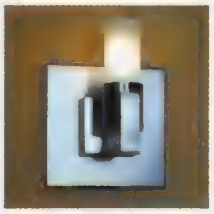
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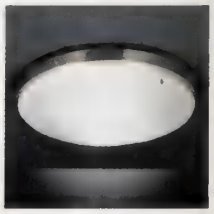
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